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Open Elite?

Social Mobility, Marriage and Family in Florence, 1282-1494¹

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1. INTRODUCTION

Despite the wealth of quantifiable material in the Florentine archives, historians have not in large numbers followed the path-breaking lead of Herlihy and Klapisch-Zuber in analyzing these archival materials from a statistical point of view. Exceptions include Cohn, Weissman, Molho, Litchfield, Barbagli, Padgett, McLean, Emigh, and Botticini.² Statistical methods remain invaluable tools, however, for answering a variety of historiographical questions, including the social-history ones in which Herlihy was interested. What were the family structures in Renaissance Florence, for various categories of people? What were the logics of intermarriage among these families? How much social mobility was there in Renaissance Florence? Did any of these change during the Trecento and Quattrocento? Statistical methods are not the only procedures through which questions such as these can be answered, but they provide a useful perspective, especially on aggregate patterns and trends.

Herlihy and Klapisch-Zuber, along with the follow-up by Barbagli, posed their questions and answers about family structure at the level of the household. In contrast,

² Herlihy and Klapisch-Zuber, 1978, 1985; Cohn, 1980, 1988, 1992, 1996, 1999, 2002; Weissman, 1982; Molho, 1968, 1994, 2000; Morrison, Kirshner and Molho, 1985; Litchfield, 1986; Barbagli, 1994; Padgett and Ansell, 1993; Padgett and McLean, 1997, 2006, forthcoming; McLean, 1998, 2007; Emigh, 1997a, 1997b, 2000, 2003; Botticini, 1999, 2000, 2003. Outside of Florence, prominent examples of historical studies using quantitative methods include Tilly, 1964, 1995; Laslett, 1965, 1972; Stone, 1965; Stone and Fawtier-Stone, 1984; Sewell, 1985; Markoff, 1996; Hoffman, Postel-Vinay and Rosenthal, 2000; Clark, 2007. Due to the richness of its sources, the depth and diversity of the quantitative data in the Padgett relational database is unusual even by these high standards.

this article poses its similar questions and answers at the level of the lineage. The best current point of departure for this level of analysis is the study of Florentine marriage by Molho.³ In addition to providing a statistical overview of Florentine marriage patterns, Molho's study usefully linked the two related topics of lineage intermarriage and political elite structure. Molho argued that stability both in Florentine lineages and in Florentine "ruling class" composition were caused by endogamous intermarriage, which recycled substantial dowries among a relatively closed set of elite lineages, thereby buffering them against the high elite-family extinction rates common in other countries in Europe.

The statistical results herein will support Molho's conclusion about the importance of marriage for sustaining the resilience of Florentine lineages over perilous demographic time. But they will not support Molho's conclusion about elite stability and closure, at least for the two-century time period of this study. I shall document high rates of relative social mobility among lineages on the dimensions of wealth and political office, and high rates of social mobility during the Albizzi regime on the dimension of marriage itself.

The resolution of the apparent paradox between lineage stability and elite fluidity will come from my statistical finding that there were in Renaissance Florence three distinct and uncorrelated dimensions of status stratification among lineages – wealth, ruling political faction, and lineage size. Marriage endogamy existed on each of these three dimensions – namely, wealthy lineages married among themselves, politically powerful lineages married among themselves, and large lineages married among themselves. However, these dimensions were not statistically related to each other –

³ Molho, 1994. See also Fabbri, 1991.

namely, wealthy lineages were not the same on average as powerful lineages or as large lineages, and powerful lineages were not the same on average as large lineages. Since exogamy occurred on all three unrelated dimensions, the counter-intuitive net effect was widespread exogamy and the marriage recruitment of middle-strata families into upper-strata patrilineage family structures. The more Florentine elites tried to close the door behind them to social mobility by others on one dimension, the more they opened other doors to social mobility on different dimensions. Because Trecento and Quattrocento Florentines failed to converge on a single criterion of status stratification, in other words, individual intentions to create a closed elite could not aggregate into the collective behavior of actually producing one.

One consequence of exogamous elites marrying non-elites was the rapid diffusion downward of the patrilineage family ideal into middle strata within Florentine society. This downward diffusion occurred at the same time as the decline of patrilineage among its original exemplars – namely, large magnate clans. Paradoxically, Trecento and Quattrocento Florentines intensely imitated a family model that was itself decaying.⁴

My answer to the “Open Elite?” question in the title of this article, therefore, largely will be yes, in spite of Florentine intentions to the contrary. This conclusion does not imply rejection of the term “elite” altogether, but it does imply its reconceptualization – as much a fluidly reproduced aspiration and ideal as a stable demographic reality.

I shall develop this conclusion in the following sequence. The next section will describe the data and its sources. The third section will present basic demographic information on family population and on birth and death rates of lineages over time. A

⁴ Below I show how these cross-currents help to resolve the Goldthwaite-Kent debate of the 1970s.

fourth section will document the mobility of Florentine families, relative to each other, in wealth, in political office, and in intermarriage. A fifth section will document the lack of correlation among various dimensions of “elite”. A sixth section will analyze statistically the social, economic and political causes of intermarriage among Florentine families. A seventh section will analyze statistically the social, economic and political causes of growth and decline in lineage size. A penultimate eighth section will examine changes in the internal structures of these lineages. A conclusion will discuss how all of these trends in mobility, marriage and lineage were contingent upon the institutional context of Florentine republicanism. I do not expect to see the same degree of elite fluidity in non-republican political contexts, such as the subsequent Florence of the sixteenth, seventeenth and eighteenth centuries.

2. DATA AND SOURCES

The overall quantitative dataset from which material for this article was drawn has been assembled from multiple archival and secondary sources, compiled and computerized over a twenty-year period. Over one hundred individual archival sources have been computerized and linked through person IDs into the overall “Padgett relational dataset.” Following the example of Herlihy, I will make this data publicly available over the internet in due course. This dataset contains economic, political, and kinship information on 42,763 Florentine males (37,128 with identifiable family memberships) and 12,875 Florentine females (11,714 with identifiable family memberships), who lived during the two-hundred-year time period of 1282 to 1500. Primary sources for the subset of this information analyzed statistically in this article are listed in the bibliography.

Based on all sources, 1,697 distinct Florentine families have been identified over this two-hundred year period, using the criterion of common last name (taking care to split similar last names into separate families, if those were not related). Of these 1,697 last-name families, 1,177 could be further classified as patrilineages, using the additional criterion of known grandfather-father-son genealogical descents. Out of all persons in common-last-name families, 76.1% of them, males and females, were successfully linked to fathers also present in the dataset. A comprehensive listing of these last-name and lineage families, along with information about their social status and sizes, is provided in a 35-page appendix to the online version of this article. This list is essentially a complete enumeration of Florentine families, so defined, for the 1352-1480 period. It is an incomplete census for the 1282-1352 and 1480-1500 periods.⁵

Of most direct relevance to this article are three sets of data: tax censuses, political offices, and marriages. Six tax censuses have been coded and incorporated into the relational database. The tax censuses in question, selected to be approximately twenty-five years apart,⁶ are the 1352 *estimo*, the 1379 *prestanze*, the 1403 *prestanze*, the

⁵ One measure of the completeness of any dataset's enumeration is the percentage of persons in newly coded sources who have already appeared in the pre-existing dataset. Recently Katalin Prajda, employed as my research assistant, has been coding all speakers in the *Consulte e Pratiche* advisory councils, from 1348 to 1500. She has found that 97% of the speakers in her coding were already included in my dataset, compiled from many disparate sources. (Of course this inclusion rate does not apply to non-speakers in the *Consulte e Pratiche* – e.g., females, deceased children, and the *popolo minuto*.)

⁶ Fragments of tax censuses from earlier periods – 1305 and 1326 – have also been coded, but in these censuses the percentage of archival records that has survived is small. In the cases of the 1352, 1379, 1403 and 1458 tax censuses, households were coded in my first round of coding from primary sources under the following restriction: “code all households with last names and all households with tax assessment above 1

1427 *catasto*, the 1458 *catasto*, and the 1480 *catasto*. These tax censuses will be the basis for estimating social-mobility rates in wealth, as well as for measuring neighborhood residence. The 1427 *catasto* was originally computerized by David Herlihy and Christiane Klapisch-Zuber and is currently available online.⁷ The 1480 *catasto* was originally computerized by Anthony Molho and Julius Kirshner and was generously donated by Molho. The 1403 *prestanze* was coded by Nicoletta Baldini, employed as Padgett's research assistant.⁸ The 1352 *estimo*, 1379 *prestanze*, and 1458 *catasto* were coded by Padgett, partly on the basis of microfilmed copies of the 1352 and 1379 tax censuses generously donated by Samuel Cohn. Archival sources for these tax records are provided in the bibliography. I discuss below the standardization procedures used for making comparable the disparate assessments underlying these various tax censuses.

In addition to taxes, all members of the Florentine city council or Priorate, from its origin in 1282 until 1500 have been coded from the Priorista volume in the Newberry Library in Chicago. These lists of city-council members will be the basis for measurement of social-mobility rates in political office. Subsequent to my Newberry

florin (or currency equivalent).” The coding restriction implied that 30.2% (for 1352), 34.2% (for 1379), 51.9% (for 1403), and 56.3% (for 1458) of all households were coded in these censuses, even though 100% of identifiable last-named households were coded. Non-coded households had non-family names like “John, son of Paul, shoemaker.” It is extremely difficult to link *popolo minuto* or “little people” like these into genealogies. My research team is currently in the process of going back to code all households in these tax censuses, not just last-named households. From this second round of coding, in process, I know the total numbers of households in each tax census – information required for figure 1 below.

⁷ www.stg.brown.edu/projects/catasto.

⁸ Cf. Martines, 1963, 351-378.

coding, office-holding data from the post-1383 *Tratte* have been made available online through the collective efforts of Herlihy, Litchfield, Barducci, and Molho.⁹ From both online and supplementary archival sources, political-office holding in the *Buonuomini* and *Gonfalonieri* advisory colleges, and consul and matriculation lists in the *Calimala*, *Cambio*, *Lana* and *Por Santa Maria* guilds have also been incorporated into the relational database, back to their origin dates in the archival sources. Genealogical reconstruction of the 1,697 families was based on names and dates from all of the 100+ files in the relational dataset, including but exceeding the material described in this section.

Finally, 11,107 Florentine marriages over two-hundred years have been coded (10,306 with identifiable last-name family memberships), with exact dates when recorded¹⁰ in sources or with estimated¹¹ dates when not. Two clusters of sources form the basis of this marriage dataset: (a) the *carte dell'Ancisa*,¹² located in the *Archivio di*

⁹ www.stg.brown.edu/projects/tratte.

¹⁰ The *carte dell'Ancisa* sometimes recorded the same marriage multiple times, due to the multiple primary sources consulted by Pier Antonio dell'Ancisa. In such cases the earliest recorded dell'Ancisa date was taken to be the marriage date. This procedure was selected after comparing Ancisa's various recorded dates, if they existed, with other temporal data known about the groom and/or bride.

¹¹ Estimation of marriage dates, when necessary, was performed through triangulation against other secure dates in the computer records of offspring – especially, birth dates of children – and in the target person's own computer records – for example, birth dates, guild matriculation dates, political office dates, etc. Birthdates were coded from the *Libri d'età* (A.S.F., *Tratte* 77, 79).

¹² Pier Antonio di Filippo dell'Ancisa spent much of his seventeenth-century life compiling fourteen thick volumes of lists of Florentine marriages from a variety of archival sources. The wide variety of sources consulted by Ancisa, most prominently dowry contracts, are listed in ASF index volume N/187, p. 153. Many of the original sources consulted in the mid 1600s by Ancisa, especially his most important source,

Stato di Firenze, and (b) published genealogies, the most numerous and thorough of which were compiled by Luigi Passerini in the nineteenth century. In all, the marriages of 416 families were directly coded, 378 families from the *carte dell'Ancisa* and 59 families from published sources. By virtue of someone's interest in their compilation,¹³ coded families tended to be the larger and the more well-established families in Florence. It is important to note, however, that I coded all the reported marriages of these 416 families, even to other Florentine families not in the directly-coded subset. Including families indirectly coded through their intermarriage with the directly coded families, at least some of the marriages of 1,253 last-name families are represented in the dataset. What are missing from the sample, by virtue of omission in the sources, are marriages between small, usually obscure Florentine families. Marriages between nuclear families without last names at all – the *popolo minuto* – are not included in this dataset.

In spite of its limitations, data coverage is very substantial. I estimated the percentage of all Florentine marriages contained in my dataset through the following procedure: In each tax census, from 1352 to 1480, I calculated the percentages of fathers – namely, male household heads with known children¹⁴ – for whom I had a record of

dowry contracts, have unfortunately now been lost. For an amusing and appreciative comment about the character of Pier Antonio, see the remarks by his near contemporary Gamurrini, 1671, 415.

¹³ Sample bias against small obscure families is much less severe for the extensive *carte dell'Ancisa* than it is for published sources. This dataset on marriage is definitely not confined to “elite” marriages. Middle-strata marriages are quite numerous here, as long as the persons in question had last names.

¹⁴ I ignore the quantitatively minor issue of illegitimate children (so-called *naturale*) in this estimation procedure. Had I been able to identify and exclude them consistently, estimated sample rates would have been higher than reported, because the (now legitimate) father denominator would have been decreased.

their marriage. This estimation procedure revealed that from 39% to 62% of all marriages¹⁵ among Florentine last-named families appear in my dataset.

3. DEMOGRAPHY OF FLORENTINE FAMILIES

The simplest level at which to begin is basic demography: first the population of Florentine households contained within lineages, and then the birth and death rates of Florentine lineages, over time.

Firstly, what percentage of the Florentine population was assembled into social families? Here the word “family” refers not to biology or to households but to social identification: namely, what percentage of the Florentine households in tax censuses had last names? And what percentage of Florentine households in tax censuses were members of patrilineages? Especially in the artisanal *popolo minuto*, most Florentines had names like “John, son of Francis, blacksmith,” not names like “John Francis Smith.” Identifying oneself as a member of a corporate descent group through a public last name, and being so recognized by others, was one sign of having attained social stature in the city. Especially in a growing city like Florence, with many immigrants, the attainment of a recognized family name was the result of a dynamic process of becoming accepted as

¹⁵ Specifically the estimated sample coverage rates were these: (a) for 1352, the estimated percentage of all marriages in my identified 1,697 families that was identified and coded was 47.2%; (b) for 1379, it was 39.3%; (c) for 1403, it was 39.6%; (d) for 1427, it was 41.2%; (e) for 1458, it was 53.3%; and (f) for 1480, it was 61.9%. These coverage rates are very substantial for such a distant past. They are a testament both to the richness of the original archives and to the assiduousness of the many researchers over the centuries whose labors have been assembled and computerized here.

contributing members of the community and citizens in the republic.¹⁶ Attaining a last name, in other words, was itself one measure of social mobility.

Figure 1 presents data, over time across the six tax censuses, on the percentages of tax households in Florence with reported last names and in patrilineages. Last-name percentages were measured in two ways: (a) percentages of household heads with last names, as these appeared in the tax documents,¹⁷ and (b) percentages of household heads who were members of the 1,697 families with last names, confirmed across multiple sources. These two measurements closely agree in their results because of the high rate of last-name consistency. Lineage percentages were calculated on the basis of various tax-census households who were members of the 1,177 last-named families linked through explicitly verified male descent, at least to the extent of grandfather-father-son. The data in figure 1 demonstrate that the percentage of Florentine tax households with last names increased over time from 27-30% in 1352 to about 45-50% in the late-1400s, and that the percentage of Florentine tax households in lineages increased over time from 23% in 1352 to about 40-45% in the late 1400s.¹⁸ There is not much practical difference between

¹⁶ For example, children of Piero, identified by *di Piero*, might evolve into the *Pieri* family. (In Latin, *Pieri* can mean either a last name or an ablative.) The same logic often held for place names – e.g., *da Vinci*.

¹⁷ “As they appear in the documents” means either (a) I recognized the family name (often with the assistance of either *de’* or *da* prefix), or (b) three consecutive names were listed, the third name of which might be ambiguous (especially in Latin) about whether it referred to a last name or to a grandfather.

¹⁸ These percentages are consistent with the estimates for 1427 and 1480 reported in Molho, 2000, 240. But for 1342, Molho reported the percentage of households with surname to be only 12.8%, much lower than my own comparable estimates for 1352. The reason is Molho’s very conservative coding rule, for 1342 only, of counting a third name as a surname only if the partitive *de’* was included in the document.

the categories of last-named family and of lineage, because most of the last-named families that were not lineages were tiny and inconsequential.¹⁹ The trend upward in all measurements is roughly linear, but slight accelerations are noticeable after changes in political regime – for example, after the post-Ciompi (or Albizzi) regime that commenced in 1382, and after the Medici regime that commenced in 1434. More and more frequently during the course of the Renaissance, Florentine households were identified in tax registers as belonging to lineages and last-name families.

-- figure 1 about here --

Figure 2 subdivides last-named families into various social strata, in order to display different trends in family size, measured as average number of households per last-named family. “Social strata” are defined by political age of families – that is, by the dates at which their ancestors first entered the Priorate. In particular, “popolani” were those families whose ancestors were first elected to the Priorate between 1282, the year of the Priorate’s origin, and 1342. “New men” were those families whose ancestors were first elected to the Priorate between 1343 and 1377.²⁰ “New-new men” I define as those families whose ancestors were first elected to the Priorate between 1378 and 1433. “Medici era” I define as those families whose ancestors were first elected to the Priorate between 1434 and 1493. And “not admitted” I define as those families which never had a

¹⁹ Explicit listings of these various categories are provided in an online appendix. Many of the non-lineage last-named families are either (a) nuclear families, with no grandfather, or (b) place names of immigrants from the same town, who were not directly related, or (c) unrelated descendants of ancestors with coincidentally the same first name (e.g., del Ricco). Moreover, 57.3% of non-lineage last-named families were in the lowest “not admitted” social strata (see below), compared to 23.9% of the lineage families.

²⁰ Cf. Brucker, 1962, 21.

member in the Priorate before 1494. “Magnates” were those families legally prohibited from holding high political office by the Ordinances of Justice in 1393. Magnate families were reclassified as “ex-magnates” at the date at which their legal banishment was repealed, if it ever was.²¹

-- figure 2 about here --

The data on family size in figure 2 reveal that the sharp family-structure distinctions in medieval times between patrilineal elites and non-patrilineal guildsmen, traces of which were still evident in 1352, gradually became muted as the Renaissance proceeded. The average number of households in magnate lineages declined gradually from about ten in 1352 to about seven in 1480.²² Conversely, the average number of households in popolani lineages rose from about four in 1352 to about seven in 1480 – a convergence, in other words, between magnate and popolani lineage sizes. The three middle-strata lineages of new men, new-new men, and Medici era all gradually rose in average lineage size over time, following the trend of popolani lineages. Alone among all strata, families in the lowest “not admitted” stratum never changed in their small average size. Subject to confirmation by the more sophisticated statistical methods employed

²¹ For insightful discussions of the conflictual politics among social strata, see Brucker, 1962, 1977, Cohn, 1980, 1999, and Najemy, 1982, 2006. For new men, see Becker and Brucker, 1956, and Becker, 1962. For magnates, see Becker, 1965, and Lansing, 1991, 239-40. For ex-magnates, see Klapisch-Zuber, 2006, 453-57. The entire category of magnate was abolished in 1434 by the early Medici regime, but I continue to label magnate families as such after this date, in order to determine how their social treatment in marriage was affected by their altered legal status.

²² For a case study of one magnate family’s decline, see Bizzochi, 1982. Numerical itemization of the decline of various magnate families is provided in Klapisch-Zuber, 2006, 464.

below, inclusion in high political office appears to have had a causal effect on the growth and decline of Florentine lineages. Regardless of cause, there was a convergence in lineage size among those Florentine families who participated in Florentine government, with sharp medieval distinctions across social strata diminishing.

In table 1, I present data on the rates of survival of lineages, by social strata across time. Because lowest-strata families were only gradually coming into existence in the period under study, 100-year survival rates could be computed only for the upper strata of magnates, popolani, and new men. For magnates, popolani and new men these lineage survival rates were 83.1%, 73.1% and 73.7% respectively. These high rates of lineage survival are consistent with the findings of Molho, who stressed the durability of Florentine lineages.²³

-- table 1 about here --

Lineage survival rates are one of the few statistics for which it is possible to compare Florence with other early-modern European polities.²⁴ All of the comparison

²³ Molho, 1994, 365-410, identified 471 fifteenth-century lineages, which he labeled the “Florentine ruling class.” Of these 417 lineages, 68.3% appeared also on the list by Litchfield, 1986, 362-382, of 714 “patrician” Florentine families in the sixteenth through eighteen centuries.

²⁴ For Forez in south-central France, Perroy, 1962, 31, has shown French noble *lignages* to have survived at the rates of 46.3% for 1300-1400 and 44.9% for 1400-1500. For Bayeux in Normandy, Wood, 1977, 7, has shown French noble *lignages* to have survived at the rate of 46.6% for 1463-1598. This extrapolates to a 100-year estimated rate of 51.5% for 1463-1562. For two regions in South Hesse, Gensicke, 1965, 129-30, has shown that German noble families survived at the rate of 48.9% for 1430-1555. According to Van Nierop, 1993, 51, Holland noble families first had the very high survival rate of 72.4% for 1555-1650, but then experienced the rapidly declining survival rates of 48.0% in 1600-1700 and of 28.6% in 1650-1750. On the other side of the English Channel, Stone, 1965, 169, has calculated that English peerage families

studies refer to nobility and gentry rooted in landed estates. Intuitively one might think that such an economic foundation would lead to greater family stability than would the volatile commercialism of the Florentine urban economy. But Florentine lineages in fact exhibited more resilience over time than did their counterparts in northern Europe. Below in table 5, I examine statistically the reasons for their demographic success.

In table 2, I present data on the frequency of birth of new lineages over time, to complement the data on survival of existing lineages in table 1. The data show a huge wave of new-lineage formation in the generation after the Black Death, as might be expected in a city of new immigrants. The Albizzi regime of 1382-1433 continued to exhibit a high volume of new-lineage formation, after the Ciompi revolt. The Medici regime of 1434-1493, in contrast with that of the Albizzi, exhibited a much reduced rate of new-lineage formation.²⁵

-- table 2 about here --

survived in their male lines at the rate of 58.7% for 1559-1659. For an earlier period, McFarlane, 1973, 172-73, has shown English 'baron' families to have survived at the low rates of 34.6% for 1300-1400, and 34.0% for 1400-1500. However, McFarlane used the primogeniture criterion of continuous, unbroken male descent, appropriate for dynastic families, rather than the criterion of "any male descendant" used here and the previously mentioned studies. Grant, 1985, 225-231, also used the primogeniture method of defining extinction for the Scottish nobility. I used his data to calculate 100-year Scottish noble-family survival rates of 48.8% for 1325-1424 and of 62.9% for 1400-1500.

²⁵ The last number in table 2 of seven new lineages formed in the period between 1458 and 1480 might be artificially suppressed because of truncation effects. That is, new lineages in that late period might not have had enough time to witness the formation grandfather-father-son genealogies by 1480, even if they were in the process of doing so. The true 1480 number therefore is probably higher than the seven reported in table 2, but also probably lower than the thirty-one new lineages accurately reported for 1458.

To call the Black Death of 1348 a shock to the demography of Florence is an understatement. Below in table 4, however, I demonstrate that the rules of marriage in Florence were not affected by this enormous catastrophe. This anomaly and others²⁶ lead me to hypothesize that political turmoil was an additional factor driving new-lineage formation in Florence. Indirect evidence for this hypothesis is provided in figure 3, which plots the volume of lineages newly admitted to the Priorate, over time. Sharp surges of new families into government during the major political crises of 1282, 1343 and 1378 are evident in this figure. The Medici takeover in 1434, in contrast, produced a much smaller wave of new-family incorporation. My hypothesis is that new lineages formed at least in part in response to the expansion in citizenship within Florentine republicanism – more particularly, to the Trecento expansion in eligibility for scrutiny election to the highest office of city council or Priorate. This political-incorporation hypothesis is intended as a supplement to, not a substitute for, the Black Death and immigration explanation for the birth rates of new lineages.

-- figure 3 about here --

4. SOCIAL MOBILITY OF FLORENTINE FAMILIES

Figure 4 presents data on social mobility in relative wealth, for families in the six tax censuses. The 1427 *catasto* measured and reported net wealth from all revenue

²⁶ I have not published data on this yet, but the partnership structure of *cambio* banks also did not change at the time of the Black Death, in spite of the loss of a huge percentage of the bankers themselves. See Padgett and McLean, 2006, for a study of major changes in the partnership structure of *cambio* banks and merchant banks immediately after the Ciompi revolt. That study analyzed the emergence of the *sistema di aziende* first discussed in depth by Melis, 1962.

streams, by household.²⁷ The 1480 *catasto* measured and reported real-estate wealth, by household.²⁸ The other *estimi* and *prestanze* levied and reported tax assessments, not wealth.²⁹ Currency units were in lire for 1352 and in florins thereafter. Genealogies and last names enabled the tracking of lineages through these tax censuses, despite their changing composition of households. Changing Florentine tax-assessment procedures creates a challenge for the researcher seeking to establish comparable units of wealth over time, required to measure economic mobility.

The approach taken here to these measurement challenges was not to try to measure “true” absolute wealth, a task that is impossible with heterogeneous tax registers alone, but rather to focus on relative tax assessment or wealth, with families only ranked ordinally with respect to each other. Mobility then is change in relative rankings. Specifically, I first calculated “average wealth (or tax assessment) per household” for each last-named family, for each census, by dividing the total sum of the wealth (or tax assessments) for all the tax households in each last-named family by the number of households in that family.³⁰ Secondly, I simplified these family-average statistics into

²⁷ Herlihy and Klapisch-Zuber, 1985, 10-20.

²⁸ Molho, 1994, 361-64.

²⁹ Barbadoro, 1933, 615-23. Conti, 1984, 119-149, 247-61, 281-87.

³⁰ Per capita standardization is crucial to any economic comparison across families, because otherwise lineages could be deemed “wealthy” only on the basis of their larger demographic size. The same point applies to political comparisons. Across many authors, the Florentine historiography paints a portrait of economic and political concentration in part because of its failure to apply per-capita standardization. Molho, 1968, 409, is a praiseworthy exception. A different way to put the same point is that economic and political concentration can be produced by patrilineal family dynamics as well as by economic and political dynamics. For clear interpretation, these various causal dynamics need to be teased apart.

ordinal rankings of relative wealth, in order to abstract away from problems of varying monetary units.³¹ Thirdly, I aggregated these rankings into coarse categories – namely, into the categories of top 10% of families³² in average-per-household wealth, 10-25% in wealth, 25-50% in wealth, 50-75% in wealth, and lowest 25% in wealth. This aggregation into relative strata dampens the effect of measurement error.

Figure 4 tracks the movement of Florentine families across these average-household-wealth strata across time, as families rose and declined relative to each other. The data exhibit high rates of relative economic mobility among Florentine families during the Renaissance. During the 1352 to 1480 era of these tax censuses, only about 25% to 40% of Florentine families persisted in the wealthiest top 10% relative-wealth bracket from one twenty-five-year census to the next. Over the 1325 to 1480 period,³³ only about 40% to 55% of Florentine families persisted even in the top 25% relative-wealth bracket from one tax census to the next. Stability in relative wealth status, in other words, was unusual rather than common among families in fourteenth- and fifteenth-century Florence. Stability in family wealth was especially low during the post-Ciompi

³¹ This procedure also eliminates the need to correct for inflation.

³² Given wide dispersion in number of households per family, “top 10%” refers to the top 10% of numbers of households contained in the wealthiest families, not the top 10% of the wealthiest families. The latter approach could have produced far more than 10% of households. Note that this procedure ranks relative wealth only within the population of Florentine families. ‘Little people’ like “John, son of Francis, blacksmith” are excluded in these calculations, because the goal is to measure social mobility of families.

³³ This is the only time in this paper that computerized data from the 1325 *estimo* is used, because the records from only one *sesto* or large neighborhood have survived. Data are too scanty in 1325 to support serious statistical analysis. Data on “top 10%” for 1325 are not reported in figure 2, for example, because there were only thirteen such families – far too small for ratios to be statistically reliable.

transition from the 1379 tax census to the 1403 tax census. Turnover rates like these, every twenty-five years or so, made it difficult for Florentine families to maintain themselves in the upper brackets of relative wealth over long periods of time.³⁴

-- figure 4 about here --

Next I turn to family mobility in politics. Figure 5 reports stability of Florentine last-named families in their membership in the Priorate or city council, from 1318 until 1493.³⁵ Two strata of political participation rates in this so-called *reggimento* were defined, for purposes of measuring movement across these thresholds: (a) a family average of one or more Priorate seats per household, within each thirty-year period, and (b) a family average of only 1/2 or more Priorate seats per household, within each thirty-year period. Figure 3 reports the percentages of families who maintained themselves within the Priorate across time, at these two different participation-rate thresholds.

-- figure 5 about here --

³⁴ The percentage of top 10% relative-wealth and top 25% relative-wealth families in 1352 who survived as such to 1480 was 14.9% and 18.3%, respectively. The percentage of top 10% and top 25% families in 1379 who survived as such to 1480 was 11.5% and 23.8%, respectively.

³⁵ The Priorate was founded in 1282. I have data on Priorate memberships dating back to this origin, but, absent tax censuses from that far back, I have no data on family sizes (i.e., numbers of tax households per family) with which to standardize these Priorate participation rates. Even standardizing the 1318-1348 political period with family-size data from the 1352 *estimo* is pushing it. Normally Priorate participation was standardized by the average of family sizes reported in the two tax censuses, which bracketed the period. For example, standardized family participation rates were calculated by dividing the number of times that family appeared in the Priorate during 1348-1378 by the average household size of that family, as reported in the 1352 and 1379 tax censuses.

At the higher participation rate of one or more Priorate seats per household every thirty years, only 30-55% of Florentine families maintained this level of political participation from one thirty-year period to the next. At the lower participation rate of only 1/2 or more Priorate seats per household every thirty years, 50-70% of Florentine families maintained their participation from one period to the next. Some political stability is observed here, but clearly family turnover in Florentine politics was high. Consistent with the temporal patterns in economic mobility documented in figure 4, the highest rate of political turnover in Renaissance Florence occurred between the *reggimento* of 1348-1377 and the *reggimento* of 1378-1403. Both in wealth and in political office, the highest levels of family mobility are observed in the Albizzi regime, after the Ciompi revolt.

Finally I have calculated social mobility in marriage. It is not straightforward to measure the “prestige” or the “value” of a lineage in the Florentine marriage market,³⁶ and hence its change over time. But social-network methods can be used to assess the degree to which a last-named family was in the core or on the periphery of the Florentine intermarriage network. In particular, the statistical concept of “structural cohesion”³⁷ measures the minimum number of links, anywhere in the network, that have to be severed in order to disconnect any particular node (perhaps including its neighbors) from the rest of the network. For example, a family having structural-cohesion level of one means that only one (well chosen) marriage has to be eliminated in order to detach that family from

³⁶ Dowries would have been valuable data to use for this purpose, but I do not have data on dowries. For other researchers’ samples, see Cohn, 1980, 54-56, 1998, 189; Lansing, 1991, 130; Fabbri, 1991, 213; Molho, 1994, 310; Chabot, 1995, 103; and Botticini and Siow, 2003, 1392.

³⁷ Moody and White, 2003.

the rest of the Florentine marriage network. “Periphery” can be defined as the set of nodes in such fragile network positions. But to take another example, a family having structural-cohesion level of four means that a minimum of four (perfectly chosen) marriages must be deleted in order to detach that family, perhaps along with its in-laws, from the rest of the Florentine marriage network. “Core” can be defined as the set of nodes in such deeply integrated and hard-to-remove network positions. Algorithms were constructed to calculate Florentine families’ structural cohesion levels (from zero to eight), over time, from the marriage data described above.³⁸ “Social mobility” in this marriage context means movement of a family, through its pattern of marriages with other families, into or out of the core of the city’s marriage network.

Using the same thirty-year periodization as in previous figures,³⁹ figure 6 reports the rates of movement of families into or out of the Florentine marriage-network core, over time. Two levels of structural-cohesion were used as thresholds for measuring movement: (a) “core” is operationally defined in that figure as a structural-cohesion level of four or more; (b) “bi-component” is defined there as the weaker structural-cohesion level of only two or more. Movement into or out of the core can be interpreted as movement of families into or out of the Florentine “marriage elite.” Movement into or

³⁸ I thank Peter McMahan, 2007, for his labors constructing a structural cohesion algorithm in the PC-oriented R programming language to do these analyses. This algorithm is publicly available on my website. James Moody originally implemented the algorithms in mainframe-oriented SAS.

³⁹ For example, to prepare marriage networks for analysis, a “1348-1377 marriage network” among Florentine families was assembled out of my global dataset from all marriages with dates in this range. And likewise for all other thirty-year time periods.

out of the bi-component can be interpreted as movement of families into or out of the Florentine marriage market itself.

-- figure 6 about here --

Here, data are somewhat at variance with the generally high-mobility story told in figures 4 and 5. As a bi-component whole, the Florentine marriage market was very stable over time: 80-90% of Florentine families persisted at the low structural-cohesion level of two or more. Since this low structural-cohesion level measures only the persistence of Florentine families in the marriage market, this is not so surprising. However for three out the five transitions between periods measured, Florentine elites also were very stable in their global marriage-network patterns, even at the high structural-cohesion level of four or more. In particular, for the transition surrounding the Black Death (namely, from 1318-1347 to 1348-1377) and for the two Medici-era transitions (namely, from 1404-1433 to 1434-1463, and from 1434-1463 to 1464-1493), about 80 to 90% of Florentine families in the Florentine marriage-network core succeeded in preserving their core marriage status into the next thirty-year period, in spite of the high levels of economic and political turnover documented above. Consistent with the interpretation of Molho, 1994, this is clear evidence for conservatism in Florentine intermarriage: elite marriage acted as a barrier (successful or not) against strong currents of economic and political mobility.

This elite conservatism in marriage, however, weakened significantly during the Albizzi regime, following the Ciompi revolt (in other words, from 1344-1377 to 1378-1403 and from 1378-1403 to 1404-1433). In those decades, rates of successful persistence of families within the Florentine marriage core dropped sharply to only 55-

65%. In the subsequent Medici regime, the marriage core rebounded to its pre-Ciompi high rate of endogamy. The family composition of this reconstituted marriage “elite” under the Medici, however, had changed because of the intervening more socially open period. All three measures of social mobility – economic, political, and marriage – agree that the greatest period of fluidity in Florentine families’ relative status occurred after the Ciompi revolt. However “oligarchic” the Albizzi regime was in its politics and policies, it was not so in its degree of social mobility.

5. MULTIPLE DIMENSIONS OF FLORENTINE “ELITE”

Despite demonstrable resistance in marriage to social fluidity (except during the Albizzi regime), high rates of Florentine social mobility in wealth, in political office, and in last names are evident. The consequences of such high rates of mobility for elite structure, however, depend upon how these various dimensions of mobility were interrelated. If stratification dimensions were strongly correlated, then Florentine families could move up or down the various dimensions roughly in tandem – perhaps led by success or failure in one dimension, such as wealth, which translated into other domains. Such consistency among stratification dimensions would produce temporal succession of families within an elite structure that was well defined in aggregate, but not internal contradiction within the elite structure itself. On the other hand, if the stratification dimensions were empirically not correlated, then Florentine elite coherence itself becomes very much an open question. In that case, the data would point not to an “elite” or to a “ruling class” but rather to the existence of multiple contending Florentine “elites”, each standing at the head of a different status hierarchy. Not only our

interpretation of Florentine social mobility, but also our interpretation of Florentine politics, depends upon how the multiple dimensions of Florentine stratification fit together, to induce either coherence or incoherence in Florentine elite structure.

Table 3 presents empirical correlations among four dimensions of Florentine stratification – social status, wealth, political office, and family size – at different points in time. The table documents generally low correlations among these various dimensions, and therefore incoherence within the structure of the Florentine “elite”.⁴⁰

-- table 3 about here --

“Social status” is measured in this table by *popolani*, defined above as that set of families whose ancestors first were elected to the Priorate between 1282 and 1342. This *popolani* social stratum embodied the republican conception of honor – namely, “service to the state,” even to the extent of “creators of the [republican] state.” On average this large stratum of families dominated the culture and politics of Florence during this period more than did any other, even though their fluctuations were considerable.⁴¹

⁴⁰ Of course self-conception could have been a different story (cf. Baron 1966). If Baron is right about the success of Albizzi-regime elites in constructing a coherent “civic humanist” conception of themselves, the fact that this had little demographic foundation affects one’s interpretation and appreciation of that cultural achievement. However, there might have been a social-network foundation – cf. Padgett and Ansell, 1993, 1293-98; Padgett and McLean, 2006, 1510-22.

⁴¹ Brucker, 1977, 254-55, and Najemy, 1982, 263-317, both made the cogent point that power reconsolidated among families in this stratum after the Ciompi revolt, even though participation diffused. Padgett and McLean, 2006, 1526, traced the economic fortunes of this stratum, which also rose after the Ciompi revolt. Below I resolve the tensions between these observations and the elite-fluidity findings in this article by emphasizing the mimetic as much as the actual power of this group.

Political stratification is measured in this table, like in figure 5, by the average per-capita number of Priorate offices held by a family during various thirty-year periods of examination. The Priorate was a city council of nine members, which turned over every two months. Hence potentially a large number of families could (and increasingly did) participate in Florentine governance over time.⁴² In order to control for the tautology of larger families having more chances to be elected, each family's total number of Priorate offices in each period was standardized like by dividing by family size, as measured by the average number of that family's households in adjacent tax censuses.

Economic stratification is measured in this table by each family's normalized average tax assessment per household. "Normalization" means dividing the average wealth/tax assessment per household by the average tax assessment (or wealth declaration, as the case may be) in each census, across all Florentine families' households. This procedure induces standardization in a more continuous way than the discrete "aggregate into strata" approach in figure 4. "Average (normalized) household wealth" was then calculated for each family, including the two tax censuses before and after the period under study,⁴³ in order to smooth out statistical noise due to potentially small numbers of households in any one family.

Demographic stratification is measured in this table by family size – that is, by the number of households listed in each tax census for each family. Again, family averages

⁴² Molho, 1968, 409; Witt, 1976, 247-51; Brucker, 1977, 254; Najemy, 1982, 150, 199, 201, 293-95.

⁴³ For example, "average household (normalized) wealth for the period 1343 to 1377" was calculated using both the tax censuses of 1352 and 1379.

were calculated over the two tax censuses at the beginning and end of each study period, in order to smooth out statistical noise.

Table 3 presents the simple correlations among these alternative dimensions of elite status. The main message contained in the table is the low values of these correlations. With the exception of *popolani* and family size, no pair of stratification measures is correlated at a level greater than the correlation level of $r = .2$.

Within these generally low correlations, details are consistent with existing historical knowledge:

(a) The correlation between *popolani* and family size increased over time, eventually to the correlation level of $r = .25$, because the average number of households within *popolani* families rose over this period from 3.7 taxed households per family in 1352 to 6.5 households in 1480, as was shown in figure 2. Conversely the average size of magnate families fell from 9.6 households in 1352 to 6.8 households in 1480.

(b) *Popolani* disproportionately were elected to city council in 1343-1377 and in the Albizzi regime of 1403-1433, but they lost power during the Ciompi revolt and during the Medici regime. What is mildly surprising is that the correlation between *popolani* status and political office was not higher than it was in these two periods.

(c) There is a small but consistently negative correlation between political office and family size because of the operation of the *divieto*, a law which limited the number of times any one family could serve on the city council.⁴⁴

What is most remarkable in these generally low numbers is the absence of correlation between wealth and everything else – except during the Medici regime, when

⁴⁴ Brucker, 1962, 67-68.

the correlations between wealth and political office and between wealth and family size increased somewhat. Even granted that any vibrant commercial economy induces volatility in wealth, it is surprising to find a strongly commercial society where wealth is not the foundation of dominance on other dimensions. But in Florence, politics and family age contended with wealth as alternative markers of elite status.

As unusual as these low correlations may be comparatively,⁴⁵ the statistical evidence about elite incoherence in table 3 is consistent with the lively contemporary contestation and debate in Renaissance Florence about the meaning of fundamental hierarchical words like “nobility” and “honor.”⁴⁶

6. MARRIAGE AMONG FLORENTINE FAMILIES

So far the evidence presented in this article has supported interpretations of Renaissance Florentine history that emphasize social fluidity among lineages: (1) Despite considerable resistance in marriage, social mobility in wealth, in politics, in last names, and during the Albizzi regime even in marriage was substantial. This mobility induced considerable turnover and churning in the stratification of Florentine families. (2) So much so that Florentine elites were cross-cutting and inconsistent in their multiple hierarchical orderings. Yet the lineage “atoms” underneath this collective churning were remarkably stable, compared to northern European noble families. What were the mechanisms that produced this apparent paradox of lineage stability and high rates of relative family mobility? In the rest of this article, I shall look underneath aggregate

⁴⁵ Unfortunately the comparative part of this statement cannot be made more precise in the absence of statistical studies similar to this one for other countries. I hope that such studies will appear in the future.

⁴⁶ Rabil, 1991, 16-23; McLean 2007, 59-89.

trends to search for answers to this question – first by examining statistical determinants of marriage and then by examining statistical determinants of growth in lineage size.

Table 4 presents the results of a statistical analysis of Florentine marriages, over a two-century time span. The dependent variable being explained by the variables reported in the rows of table 2 is the number of directional marriages taking place between two families, during the time period identified in the columns. The unit of analysis is family-pairs, not families per se. Zero-inflated Poisson regression⁴⁷ is the correct variant of multiple-regression analysis to use, given the count structure of this dyadic data. This means (a) that for each time period under study,⁴⁸ the set of all families with at least one observed marriage was assembled, (b) that all pairings of such families were constructed, (c) and a count was made of how many marriages occurred between each pair of families during the examination period – zero, one, two, three, etc. Care was taken to distinguish the gendered directionality of marriage – namely, the number of marriages between the groom’s family and the bride’s family was different (usually) from number of marriages between the same two families with bride-and-groom roles reversed. Poisson regression is appropriate for count data. “Zero-inflated” is a two-stage logit-regression correction used for datasets, like this one, in which the vast majority of family pairs had an observed count of zero.

-- table 4 about here --

⁴⁷ Long, 1997, 242-47.

⁴⁸ Aggregating intermarriage data into thirty-year study periods mitigates errors that may exist in dates of marriage. Both observed and estimated marriage dates could easily be off by a few years, but they are very unlikely to be off by thirty years, or even by fifteen. Thus given the data, macro trends over centuries can be studied reliably, whereas estimating year-by-year fluctuations has measurement error (as do all data).

Details of independent-variable construction (likewise dyadic in nature) are presented in the footnotes of table 4. When these independent variables' values ranged from zero to one (the case with most variables), the numerical values of their coefficients are comparable, but otherwise they are not. More important are the significance levels reported in table 4, denoted by asterisks.⁴⁹ Sometimes numerical values of estimated regression coefficients can be high, without achieving statistical significance. This usually means that the number of observed cases underlying that coefficient was too low for reliable inference. Readers should pay attention, therefore, only to reported coefficients with statistical significance.

Passing over the three variables listed first in the table, which statistically control for the otherwise potentially confounding issues of family-size tautology⁵⁰ and sample bias,⁵¹ the first substantive finding of interest is the effect of family size itself. Above and beyond the tautological fact that large families were more likely to marry each other simply because they had more sons and daughters, large Florentine lineages were more likely to marry each other. This was not statistically true in every period, but in four out of six observed periods it was true. This non-tautological effect of family size, especially coupled with the tautological effect of family size, implies that large patrilineages formed a dense cluster of intermarrying families at the center of the Florentine marriage network. One reason for not discarding the concept of “elite” altogether, in spite of its incoherence

⁴⁹ The more the asterisks, the higher the level of statistical significance, as explained at end of table 4.

⁵⁰ Namely, large families are more likely to marry each other simply because they have more sons and daughters.

⁵¹ Namely, as explained above, families who have been directly coded are more likely to have reported marriages than families who were indirectly coded.

problems, is the patrilineage itself. Patrilineage family structure within large Florentine families was perhaps the most essential mechanism that concentrated and channeled Florentine intermarriage into a dense marriage-network core in the first place. Patrilineage, in other words, was the social glue that held the Florentine marriage network together at its core, in the face of strong centrifugal forces of economic and political mobility threatening to tear it apart.

The second set of significant findings concerns social strata:

(a) After 1348 but not before, magnate families strongly intermarried. This remained true even after the Medici in 1434 removed their legal status, and after the magnates declined demographically because of splintering (see figure 2 above). After the Black Death, Florentine magnates were like a deposed aristocracy, which history had passed by, but whose proud but archaic collective memory of their own history remained strong. Conversely, back in the beginning of their founding, from 1293 to 1343, when magnate families were still strong and threatening, they did not tightly marry each other. Rather they continued to intermarry with their titular enemies, the *popolani*.⁵²

(b) As lineage branches splintered off their magnate roots,⁵³ usually adopting a new last name in the process, the marriage behavior of these ex-magnates altered. The direction of alteration was not toward endogamy with some other social-class group. Rather ex-magnates became almost⁵⁴ social-class blind in their intermarriage behavior.

⁵² For the early period 1285-1294, Ottokar, 1962, 47-89, documents many close ties between magnates and popolani, including marriages. For the post-1350 period, see Klapisch-Zuber, 2006, 383-408.

⁵³ Klapisch-Zuber, 2006, 209-19, 453-59.

⁵⁴ The “almost” is due to (c).

(c) “New men,” defined in this particular table as the union of new men and new-new men,⁵⁵ were also endogamous in the periods 1318-1347 and 1378-1403. Even more pronounced, however, was the mutual marriage antipathy between them and the magnates and even the ex-magnates. This social-class aversion reached levels of statistical significance in the two periods 1348-1403, but a milder form of it is detectable throughout the two centuries under study, via the negative-coefficient signs in the regressions.

(d) Perhaps the most surprising finding among these social-strata coefficients is a counter-intuitive finding of non-significance: The highest social stratum, namely the *popolani*, never exhibited at any time any social-strata preference in their marriage behavior, either endogamy among themselves or exogamy regarding anyone else. Instead, the marriage behavior of *popolani* families was statistically random with respect to social strata. According to republican standards of the time, *popolani* families were the highest prestige group in Florence, having founded the republic, yet in their marriages *popolani* families never enacted the very dimension that put them on top. This is a puzzle: “popolani” was a strong linguistic concept in Florentine political discourse, at least before the Medici era, yet it is a term without marriage-network behavioral content. On this dimension, there was a mismatch between Florentine cognitive self-understanding and Florentine network behavior.⁵⁶

⁵⁵ These two social-class categories were combined in this regression analysis to achieve better precision, once it became clear that the marriage patterns of new men and new-new men were very similar, statistically speaking.

⁵⁶ Cf. Padgett and Ansell, 1993, 1273-74.

To summarize, in marriage, social class was a status dimension kept alive by the strong antipathy between magnate and new-men social strata. Behaviorally, the highest prestige *popolani* stood not above but in between the magnates and the new men, bridging the polarized class differences beneath them. This network-bridging function of *popolani* families in marriage may help to explain how they credibly could have positioned themselves not as a self-interested oligarchy but rather as public-spirited “citizens of Florence,” at least during some periods in their history.⁵⁷

The statistical effects of neighborhood on intermarriage are simple to describe. Measured either at the fine-grained (sixteen-unit) level of *gonfaloni* or at the coarser-grained (four-unit) level of quarter, the effect of neighborhood propinquity on intermarriage was consistently significant.⁵⁸ The magnitude of this effect, however, steadily declined over the two-century period under study. In the first two periods of our study, 1282-1317 and 1318-1347, the statistical effects of neighborhood on intermarriage are the strongest of all in those regressions.⁵⁹ In addition to having patrilineage at its core,

⁵⁷ Cf. Baron, 1966, 443-62; Cohn, 1980, 59-60.

⁵⁸ Cf. Kent and Kent, 1982; Kent, 1987.

⁵⁹ The statistical power of these early neighborhood coefficients is especially notable because in these two early periods family “neighborhood” was measured from the 1352 tax census and then projected backward. Before 1343, the administrative map of Florence was divided into six (*sesti*), instead of into sixteen (*gonfaloni*) and four (quarters). Thus it is impossible to measure *gonfaloni* residence from contemporary documents before 1343. Neighborhood measurement based on 1352, with the heroic assumption of no residential mobility, is the best that one can do for earlier years. The fact that neighborhood coefficients are so strong in table 4, in spite of this shaky assumption, implies (a) that geographical mobility really was quite low, especially for patrilineages with large medieval houses-cum-towers, and (b) that the true effect of neighborhood propinquity on Florentine marriage was even higher than reported in table 4.

in other words, the marriage network in late medieval Florence was geographically segmentary. As the Renaissance proceeded, however, the geographical foundation of the Florentine marriage network gradually dissolved, until it became barely detectable in the time of Lorenzo de' Medici.⁶⁰

Moving now to the status dimension of wealth, the results again are easy to state. Namely, in all periods of possible observation, from the 1352 to the 1480 tax censuses, Florentine families were sharply endogamous on the dimension of wealth. Wealthy families married other wealthy families. Furthermore, the wealthier the family, the more intense was the marriage endogamy according to wealth. These conclusions are based on the following coefficients in table 4: (a) consistently significant endogamy coefficients for families both in top 10% of wealth and in top 10-25% of wealth; (b) higher magnitude and significance coefficients for families in the top 10% of wealth than for families in the top 10-25% of wealth; (c) strong and significant negative/aversive coefficients for intermarriage between families in top 25% of wealth and families in bottom 50% of wealth. Molho combined a number of criteria in his composite definition of “ruling class”, but the most important criteria he used was wealth, as measured in the 1427, the 1458, and the 1480 *catasti*.⁶¹ To the extent that wealth was the dimension driving Molho’s statistical results, his study and mine agree that the Florentine “elite” practiced endogamy in marriage.⁶²

⁶⁰ Cf. Cohn, 1982, 52-59; Padgett and Ansell, 1993, 1288, 1299.

⁶¹ Molho, 1994, 204-5.

⁶² Molho was perhaps too quick to extend this sound conclusion about Florentine marriage endogamy in wealth to conclusions about Florentine “ruling class” marriage endogamy in general. Combining multiple

Continuing in the economic vein, another battery of variables in table 4 investigates the relationship between marriage and economic industrial structure – in particular, the effect of business partnerships on marriage between partners’ families. Strong empirical correlations between business partnership and intermarriage between the families of partners are found across multiple industries only for the one period of 1403-1433. This is consistent with the “catalysis” half of Padgett and McLean’s explanation for the invention of the partnership system.⁶³ This Albizzi-regime correlation between marriage and partnership systems both reinforced the economic reproduction of that new mode of making companies, and it blended an economic logic into marriage, making it natural to use dowries as startup capital for firms.⁶⁴ It was during the Albizzi regime, in other words, that commerce and marriage were most seamlessly fused into a merchant-republican elite, possibly under the ideological umbrella of civic-humanism. This fusion had consequences both for marriage and for industrial structure.

Turning now to politics, two sets of political variables are investigated in table 4 – the effect of political office-holding on the likelihood of intermarriage, and the effect of political factions on intermarriage. On the status dimension of political office-holding, the consistent finding in table 4 is no marriage endogamy within the *reggimento* of previous office holders. This statistical non-finding for *reggimento* is similar to the non-finding for *popolani*. Two aspects of the top office of Priorate or city council were

(inconsistent) measures of “elite” into a composite index, as in Molho, 1994, 205-7, was a mistake, in my humble opinion. I do not wish to imply thereby that I am myself without mistakes.

⁶³ The first half being the “transposition and refunctionality” co-optation of cambio bankers into the reconstituted ruling oligarchy after the Ciompi revolt in 1378. See Padgett and McLean, 2006, 1468-74.

⁶⁴ Cf. Dati diary in Brucker, 1967, 110, 114, 121.

investigated – namely, that of family office-holding during the interval of the regression (contemporary “power”), and that of cumulative number of offices held by the family since the 1282 creation of the Priorate (historic “state service”). Office-holding in the Mercanzia or commercial court is also investigated in table 4. Only one out of the 28 political-office coefficients was statistically significant, which is negligible. It will perhaps surprise political historians of Florence as much as it did me that a statistical relationship between marriage and political office-holding did not exist in republican Florence, after controlling for other variables. Impressions to the contrary are created by spurious correlations of both marriage and political office with other factors that affect both, such as family size.

The political variables that did affect marriage, however, and dramatically so, were political factions – especially victorious political factions. Statistically significant effects on marriage of political factions formed during crisis events are observed for astonishingly long periods after those events had passed. For example, the Ciompi revolt of 1378 remained seared into Florentine elites’ collective memory and marriage behavior for 100 years. The victorious counter-revolutionary alliance⁶⁵ of families that crushed the Ciompi revolt was statistically endogamous during the periods 1348-1377, 1378-1403, 1404-1433, and even a bit⁶⁶ into 1434-1463. In other words, the tumultuous events of the Ciompi revolt remained inscribed into the Florentine marriage networks of the victors for one hundred years.

⁶⁵ As identified in the chronicle of Stefani, 1903, 308, 317-18, 321-22, 328, 338-40, 343, 347-48, 350-51, 359, 363-66, 370-71, 393-94.

⁶⁶ That is, $p < .06$ which means almost significant.

A similarly long-lasting shadow was inscribed into Florentine marriage networks by the Guelf struggle in 1301 between Blacks and Whites. Institutionally reinforced by the *Parte Guelfa*, the victorious Black Guelf families⁶⁷ of 1301 were endogamous in marriage during the periods 1282-1317, 1318-1347, 1348-1377, and 1378-1403. Again intermarriage data reveal behavioral evidence of about a one-hundred-year memory of searing political events of the past, among the victors.

In contrast to the Ciompi revolt and to the equally bitter struggle between Blacks and Whites, the political contest between the Albizzi and the Ricci factions⁶⁸ in 1348-1377 was not so severe as to leave observable traces in marriage, either during that period or later, after controlling for other correlated disputes.

Finally, during the Medici regime, Medicean political partisans⁶⁹ underwent an interesting evolution in their marriage behavior. Under Cosimo de' Medici, Medician partisans were not endogamous in marriage. This finding is consistent with the unusually centralized political-party structure of Cosimo, analyzed in Padgett and Ansell. But they became endogamous under Lorenzo de' Medici, partly under Lorenzo's own brokerage.⁷⁰ Medici partisans, in other words, were originally open in marriage to outsiders, but then they closed into themselves, perhaps in response to the Pazzi revolt.

Viewed cross-sectionally, all these effects on marriage are variables in a statistical analysis. Viewed temporally, however, these statistical effects are layers of history

⁶⁷ As identified in Dino Compagni, 1986, 24-27, and in Raveggi et al., 1978, 324-26.

⁶⁸ Partisans coded from narrative of Brucker, 1962.

⁶⁹ As identified in Kent, 1978, 352-54, Rubinstein, 1966, 236-43, Saponi 1955, 419-21, and Pampaloni 1964, 234-35 (first 125 signers only of latter petition were used).

⁷⁰ Cohn, 1980, 53-56; Bruscoli, 1997.

superimposed on each other.⁷¹ These two perspectives are not as incompatible as they might seem. The former can be a method for uncovering the latter, just as the latter can be an interpretive tool for understanding the results of the former. Florentine marriage networks registered the collective memory of contemporary Florentines on many scales of temporality at once – conscious, institutional, and ultimately even biological.⁷²

More specifically, the findings in table 4 identify the not-always-consistent historical cross-currents underlying Florentine marriage networks. With regard to political office and to the *popolani* social stratum, the Florentine marriage system was remarkably open to the smooth and continuous incorporation of newcomers. With regard to wealth and political factionalism, victorious elites tried to “close the door behind themselves” through endogamous intermarriage, temporarily cutting off future immobility. But these elite-closure efforts ultimately failed, since history kept moving on, creating yet another rising wealthy cohort, yet another factional cleavage. As a result the Florentine marriage network tended to lurch, over 30-year regime units of time, from one endogamous core to another, subjecting the elite system as a whole to repeated shocks. Patrilineage structure itself was the main stabilizing force fighting against continuous, episodic churning. For new families, the attainment of a recognized last name was perhaps the only mobility victory that was permanent. For older families, large Florentine patrilineages continued to try to support each other in marriage, not always successfully, whatever tumultuous forces beset them.

⁷¹ Cf. Braudel, 1966, 20-21.

⁷² See Cormac McCarthy, 2005, for a profound literary reflection on the longest scale of temporality – the relationship between evolution and parental love.

7. GROWTH AND DECLINE OF FLORENTINE FAMILIES

What difference did these mobility and marriage dynamics make for the demographic success or failure of Florentine families? Table 5 reports the results of a statistical analysis of family growth or decline, between the various tax censuses at my disposal. “Family growth/decline” is simply the difference in numbers of tax households registered for each family in the successive tax censuses. Since these differences ranged from -13 to +15, normally distributed around zero, ordinary least-squares regression was the statistical method employed. Details of independent-variable construction are reported in the footnotes to table 5.

-- table 5 about here --

The overall picture is that three factors drove the demographic growth or decline of Florentine families during the Renaissance: (a) wealth, (b) political factional success, and (c) being within the marriage-network core.⁷³ Political participation, in the sense of Priorate membership, and social identity of wife, above and beyond her family’s being in the marriage-network core, were irrelevant to a family’s demographic success.

The conjunction of the effect of marriage-core on family growth in table 5 and the effect of family size on marriage endogamy in table 4 implies that there was a positive feedback of demographic success at the heart of the Florentine kinship system – large patrilineages intermarrying, breeding growing patrilineages, who intermarried, etc. To the extent that there was any stable elite at all in the face of widespread economic and political turnover, it was this inner motor of patrilineage that generated it.

⁷³ The definition of “being in the marriage-network core” is the same as above – namely, families with a structural cohesion level of four or more, within the Florentine marriage network of the time period.

In addition to marriage-core, a family's average household wealth at the beginning of each period mattered for the subsequent demographic fortune of that family at the end of each period. Simple material ability to support larger numbers of children is perhaps sufficient to account for this statistical effect.⁷⁴ But probably more subtle mechanisms of dowry and of marriage attractiveness were also involved. Whatever the detailed mechanisms, a positive feedback of wealth thus also existed, along side of patrilineage – namely, wealthy families intermarrying, breeding growing families, who intermarried, etc. Whereas the patrilineage feedback on average was a force for stabilizing old families within the core, the wealth feedback on average was a force for injecting new and growing families into the core, even though its “intent” was wealthy families closing ranks. Patrilineage and wealth were both forces for social closure (on different dimensions), but not being correlated they worked at cross-purposes.

Political factional success also resulted in growing families – examples are the Black Guelfs even as late as 1352-1378, the Albizzi faction in 1352-1378 and in 1378-1403, the Ricci faction in 1378-1403, the anti-Ciompi in 1403-1427 and even as late as 1427-1458, the pro-Ciompi in 1352-1378, the Albizzi oligarchs in 1403-1427, and the Mediceans in 1403-1427, in 1427-1458 and in 1458-1480. Political exiles are well documented in Florentine historiography,⁷⁵ but from a broad demographic perspective, the consequences of political success on family growth are more evident in table 5 than are the consequences of political failure on family decline.⁷⁶ Since these political-faction

⁷⁴ Herlihy and Klapisch-Zuber, 1985, 241-46; Clark, 2007, 88.

⁷⁵ For example, Baxendale, 1991, and Shaw, 2000.

⁷⁶ Cf. Morelli's *ricordi* in Branca, 1986, 61, 71-74.

results are also matched in the marriage results in table 4, their conjunction points to yet a third positive feedback in Florentine kinship – namely, political victors intermarrying, breeding growing families, who intermarried, etc. The main difference between this third feedback logic and the other two was that the patrilineage and wealth logics operated consistently throughout the time period under study, whereas the definition of “political victors” lurched in composition from one political crisis to the next. Even though “political victor” was always a salient dimension of stratification among Florentine lineages, the content of this kept shifting through periodic political crises. Of all the political crises, the Black-White Guelph, the Ciompi revolt, and the Medici ascendance were the most consequential for Florentine intermarriage and lineage growth.⁷⁷

Other than these three drivers of family growth, the results in table 5 imply large-family-size decline: (a) having a large family size, absent renewal from one of the three feedback logics, led to a decline in that family’s size, and (b) magnate (and to lesser extent ex-magnate) families declined. These ‘entropy’ trends were also evident in figure 2, which plotted average family sizes over time, broken down by social class. In figure 2 it was evident that the largest medieval-era magnate families suffered dramatic shrinkage in size, through splintering and other mechanisms, during the period under study,⁷⁸ whereas all other social classes grew in their average family sizes. Figure 2 attributes this shrinkage in very large family sizes specifically to magnates, but table 5 reveals that the phenomenon also involved others, even if magnates epitomized the large-family

⁷⁷ Perhaps the protracted 1282-1293 struggle between magnates and popolani deserve inclusion on this list, but I cannot measure lineage growth and decline before the 1352 tax estimo.

⁷⁸ Bizzocchi 1982; Klapisch-Zuber, 2006, 209-219, 453-59.

demographic problem. Demographically successful Florentine families could not passively rest on their past laurels if they wanted to survive.⁷⁹ They needed actively to participate in one or more of the three positive-feedback logics of patrilineage-plus-marriage-core, of wealth, or of victorious political faction in order to maintain their demographic strength in the face of entropy.

Absent inherited membership in the marriage core, two routes were available for new families to grow – wealth and political faction. Social mobility and demographic growth were two of the incentives for new men to enter politics, in spite of the subordinate clientage position in which this entry placed them at first. Figure 5 reveals that, indeed, on average these social-mobility mechanisms led to demographic success for newcomers. By 1500, *popolani*, new-men, new-new-men, and Medici-era families had grown in their average household sizes to almost eliminate the dramatic social-class differentiation in family sizes that had existed in 1352 and before. In terms of raw numbers of distinct families, the *popolani* experienced a decline, new-men families remained constant, and new-new men and Medici-era families grew.⁸⁰

All these trends together (see also figure 1) point to the diffusion of previously upper-class patrilineage ideals down from older medieval *consorterie* into the middle-class ranks of Florentine society. The irony is that the demographic content of these same ideals simultaneously was disintegrating within those older medieval-era families that

⁷⁹ Alberti, 1971, 27-34, presents one famous description of what such decline felt like to participants.

⁸⁰ The respective numbers, from 1352 to 1480, are these: *popolani* from 276 to 184, new men from 163 to 156, new-new men from 103 to 165, and medici-era from 46 to 117.

had first created it.⁸¹ To conceptualize diffusion and growth with a collapse at the center, the imperfect metaphor of a volcano comes to mind: Patrilineage aspiration was the lava pushing up many nouveaux families to congeal, even as it induced the true model to which they were aspiring to collapse. In my assessment, Goldthwaite, 1968, and Kent, 1977, essentially were both correct in their debate about the historic decline or not of patrilineage in Florence, because of the co-existence of these apparently contradictory trends of patrilineage diffusion and collapse.

8. INTERNAL STRUCTURE OF FLORENTINE FAMILIES

So far in this article, lineages and last-named families have been treated as unitary entities, in order to maintain a *longue durée* focus on macroscopic dynamics and trends. This is a simplification for analytical purposes. I turn now, however, to looking inside the lineage “atoms” in order to see if there was any change on average in the internal structure and function of Florentine lineages over this time period.

The point of departure for this assessment of internal change within lineages is the debate between Goldthwaite and Kent. Using mostly economic evidence, Goldthwaite, 1968, provocatively argued that Florentine patrilineages progressively disintegrated into nuclear families over the course of the Renaissance. Using mostly non-economic evidence, Kent, 1977, forcefully denied that claim. Both sides of this extended debate

⁸¹ When families like Pucci (già “di Puccio”), Gucci (già “di Guccio”), Serristori (già “di ser Ristoro”), and Ginori (già “di ser Gino”) became the new ‘aristocracy’ of Medici Florence, the bones of the Adimari, the Buondelmonti, and the Vicedomini must have turned over in their ancient graves.

focused on fine-grained examinations of small numbers of “representative” families.⁸² In this section, I present evidence that suggests that both sides to this debate were correct.

A broad statistical approach like that in this article and in Herlihy and Klapisch-Zuber cannot hope to match the level of detail possible in case studies, such as those of Goldthwaite and Kent. But some light can be cast on the Florentine evolution of internal family structure by aggregate statistics, even if only at a coarse-grained level of resolution. In exchange for loss of detail and texture, what is gained is global information on trends in the population as a whole.

“Family solidarity” is a complex concept with many aspects. But one indicator that is measurable with the statistics at my disposal is how densely the various households in a family lived together. Figure 7 presents data over time, subdivided by social strata, on the percentage of families’ households that lived in the same (i.e., the modal) *gonfalone* neighborhood. *Gonfaloni* were the sixteen administrative wards into which the city was subdivided.⁸³ These are the geographical units itemized in the tax censuses. (The exception was the 1403 *prestanza*, which reported residence only at the quarter level of aggregation; hence the gap in figure 7.)

-- figure 7 about here --

Consistent with the argument of Kent, Florentine families generally increased in their residential concentration during the Renaissance. The exception, as always, was the magnates, whose demographic disintegration is reflected in their residential

⁸² Other studies of particular Florentine families include Klapisch-Zuber, 1985, 68-93; Foster, 1985; Kuehn, 1991, 129-175; Ciappelli, 1995; Crabb, 2000; Jacks and Caferro, 2001; Plebani, 2002.

⁸³ Before 1343, the city was divided into six *sesti* instead. I have also estimated pre-1343 *gonfaloni* residence even before such existed (see footnote in table 4), but that is not relevant for figure 6.

deconcentration as well – from the highest residential concentration of all classes in 1352 to the lowest in 1480. In 1352, consistent with late-medieval patterns, high-status *popolani* and magnate lineages were the most geographically concentrated, in spite of their large sizes, whereas lower-status new men, new-new men, and Medici-era families were the least concentrated, in spite of their smaller sizes. By 1480, however, all social classes except magnates had converged to the very high level of 75-80% of families' households living in the same *gonfalone*. This increase in residential concentration occurred mostly during the Medici regime. This is further confirmation of the earlier conclusion that patrilineage ideals were diffusing out into Renaissance Florence, even as the original sponsors of those ideals were collapsing.

Further information on the internal constitution of Renaissance Florentine families, in the functional domains of economics and politics, is provided in figures 8a, 8b, 9 and 10. Figures 8a and 8b present data on the connection between family and business – namely, what percentages of Florentine business partnerships were formed between patrilineal kin. Figure 8a presents annual-census data on partnerships among domestic bankers, originally collected by the *Arte del Cambio* or banking guild. Figure 8b presents sketchy but available data on other industries – international merchant traders, wool manufacturers, and silk manufacturers – collected from a variety of ad hoc sources, listed in the bibliography.

-- figures 8a and 8b about here --

Consistent with the argument of Goldthwaite, both figures 8a and 8b show the withdrawal of Florentine families-qua-families from the constitution of business partnerships. Around 1300, an astonishingly high 70-75% of cambio-banking

partnerships were constructed out of paternal kin – fathers, sons, brothers, uncles, or cousins of varying degree. Over the first half of the 1300s, this percentage dropped gradually to about 40%, at which level it remained until 1460, after which it declined further to 20-30%. As shown in figure 8b, the international merchant-banking industry, located for the most part in the *Arte della Calimala*, shows an even more dramatic drop: about 60-80% of partners in international merchant-banking companies were paternal kin until the Ciompi revolt in 1378, after which suddenly only 35-40% were. This sharp organizational change was due to the invention of the partnership system, analyzed in Padgett and McLean, 2006. Unfortunately no data prior to 1382 exist to document partnership structures in the wool- and silk-manufacturing industries from their beginnings.⁸⁴ But data from that date forward are consistent with the fourteenth-century withdrawal of family from business partnership in those industries as well.⁸⁵

Space does not permit a discussion of these organizational developments in economic history.⁸⁶ But the consequence for Florentine family structure was that during the 1300s business became less and less an important reason for the maintenance of paternal kinship. This is not to deny that family businesses even at the end of the 1400s

⁸⁴ Silk manufacturing was essentially non-existent in Florence before the 1380s, but wool manufacturing was strong in Florence from the early 1300s on. Wool-textile production statistics are presented in Hoshino, 1980, 203, 207, 227, 229, 283, and in Franceschi, 1993, 9, 13.

⁸⁵ At the very end of the time-series, around 1480, family participation jumps back up in both silk-manufacturing and in international merchant trading. I have no explanation for this anomaly, which goes directly contrary to the more solidly documented trend in cambio-banking at that same time.

⁸⁶ See references and analysis in Padgett and McLean, 2006.

were not far more prevalent than they are today. But family-business percentages of the magnitudes of the early 1300s had disappeared.

One consequence of this family withdrawal from business was increased inequality in wealth among the households within families. When many family members were in business together, their economic fortunes tended to rise and fell together. But as economic activities diverged among different households within the family, so did their economic fortunes. Figure 9 plots Herfindahl indices⁸⁷ for wealth concentration, averaged across families of various social strata. Low values indicate relatively egalitarian distributions of household wealth within lineages; high values indicate relatively unequal distributions of household wealth within lineages.⁸⁸ Except for magnates, always the exception, inequality in household wealth increased within lineages in all social strata in Florence – particularly in the 1352-1378 period.⁸⁹

-- figure 9 about here --

Rising inequality of wealth was not the same as rising “individualism” in family households,⁹⁰ because other evidence shows that patrilineal behavior intensified. Evidence suggests that wealthy branches of the family often helped their poorer cousins

⁸⁷ In economic industries, the Herfindahl index is the sum over firms of their squared market shares. Here, the Herfindahl index is the sum over households of their shares of their family’s total wealth. (Normalized to make varying household-sized families comparable.) See http://en.wikipedia.org/wiki/Herfindahl_index.

⁸⁸ Varying monetary scales in different tax censuses are not a problem, because the Herfindahl index itself standardizes those away.

⁸⁹ A slight decline in wealth inequality is evident in 1480, but this may be only because the 1480 catasto measured “wealth” only in terms of real estate.

⁹⁰ Burckhardt, 1954 [1860], 100-127.

financially.⁹¹ But regardless of this intra-lineage financial assistance, the gap between wealthy and poorer branches of patrilineages increased during the Renaissance.

Finally Herfindahl indices for inequality in political office, specifically in Priorate office-holding, are presented in figure 10. Here, “inequality” means one or a few heads-of-household monopolizing the Priorate seats of the entire family in the time period (assuming that there was more than one seat). “Equality” in contrast means that the family’s Priorate seats in the period were widely distributed across its household heads.

-- figure 10 about here --

The data in figure 10 shows exactly the opposite trend in political office-holding as was seen in wealth in figure 9. Namely, intra-family inequality in political office-holding suddenly decreased after the 1378 Ciompi revolt – and stayed that way. This temporal trend could have been caused by institutional reasons, by cultural ones, or by a combination of the two. Whatever the mechanism, fifteenth-century Florentine families, but not fourteenth-century Florentine families, exhibited a careful balance in their distribution of offices within themselves.⁹²

Collectively figures 8 through 10 suggest a change in the economic and political function of lineage within Florentine society – less important in economics, but more important in politics.⁹³ The Goldthwaite-Kent debate, in other words, can be usefully reframed from the issue of lineage “decline” to the issue of changing lineage function.

⁹¹ For example, Brucker, 1967, 140; Padgett and McLean, forthcoming.

⁹² I have coded the scrutiny voting of the 1382, 1393, 1411, and 1433 elections. The voting mechanism that produced dispersion of office within family will be investigated in a future paper.

⁹³ Figure 7 can be also interpreted as consistent with this suggestion, because *gonfaloni* first and foremost were administrative units of geography. More research is necessary, however, to prove this suggestion.

9. CONCLUSION

Social mobility in relative rankings among lineages in Renaissance Florence was high – especially in wealth and in political office, but also during the Albizzi regime in marriage hierarchy. A vibrant commercial economy and a turbulent political history lay at the base of this social mobility, but these economic and political histories were translated into family history through inconsistency among three contending status-stratification principles: wealth, winning political faction, and patrilineage size. Norms of marriage endogamy applied to each of these three status dimensions, but because these dimensions were empirically unrelated, endogamy on one dimension implied exogamy on the other dimensions, on average. Efforts to consolidate their own family positions forced “elites” (defined on any of the three dimensions) to reach down to marry middle-tier families, recruiting them as in-laws. These cross-strata marriages, in turn, became one factor feeding back to keep economic and political histories dynamic, at least for the duration of republicanism.

How can this open-elite conclusion square with the dominant portrait of elitism and oligarchy prevalent in Florentine historiography today? In brief, my answer is through mimesis: “di Puccio,” “di ser Ristoro,” and “di ser Gino” became Pucci, Serristori, and Ginori, respectively. New men tried to become patricians, and buried (or reinvented) their actual pasts.

While I disagreed with Molho on some particulars, I agreed with his fundamental point that it was through marriage that patrician Florentine lineages, old or new, successfully preserved their demographic existence through perilous times. But “endogamy” did not mean a self-enclosed group. There were three independent causal

feedbacks linking marriage and demographic success – marrying for money, marrying for power, and marrying for lineage size. Florentine lineages had to maneuver among these inconsistent cross-currents in order to achieve upward-mobility success. Or more to the point, they had to so maneuver in order to avoid otherwise almost inevitable downward mobility and extinction. The strong negative-growth coefficient on family size in table 5 supported Herlihy's contention⁹⁴ that large upper-strata houses faced strong social-mobility pressure downward due to high birth rates, in the absence of aversive action to the contrary. Florentine magnates were prominent examples. But usually Florentine citizens were adept enough in their balancing of heterogeneous marriages across status dimensions to successfully preserve their lineages.

With regard to middle-strata new men, Najemy has made the cogent argument⁹⁵ that electoral reforms – episodically throughout the Trecento, but particularly after the Ciompi revolt – expanded the franchise, thereby co-opting complaisant new men into patrician-dominated republican power structures. I am making a similar argument in the domain of social history. Through exogamous marriage, the patrilineage family ideal of patricians diffused downward into the Florentine population. I add, however, the point that this diffusion pressure was so strong that it dissolved the marriage-network content of the dominant-class categories of *popolani* and *reggimento*. It was not so much the *popolani* class that dominated, as it was the *popolani* ideal that dominated. Through both electoral and marriage co-optation, new men adopted the family ideals of their *popolani* status superiors.

⁹⁴ Herlihy, 1973, 632, 641.

⁹⁵ Najemy, 1982, 299-300, presents an especially striking formulation of his view.

The focus of this article has not been on the position of women in Florence, about which there is an active historiography.⁹⁶ But to the extent that patriarchal values were associated with patrilineage family systems,⁹⁷ then the analysis in this article sheds some indirect light on why Joan Kelly answered no to her famous question “Did Women have a Renaissance?”⁹⁸ Namely, the patrilineage model diffused to wider segments of the Florentine population during the Renaissance. In the perspective of this article, this diffusion of patriarchy was not just the reactionary reassertion of sexism. Rather it was an unfortunate corollary of high social fluidity in the (male) society.

Finally, there are two ways in which the findings in this article depend upon the institutional framework of republicanism – cognitive comparability and political factionalism. At the household level of analysis, Herlihy argued that medieval households throughout Europe gradually became comparable across social strata, through the spread of peasant agriculture and through the Church’s homogeneous policies on incest and marriage.⁹⁹ A similar point at the level of lineage can be made about republican elections.¹⁰⁰ As more and more males became eligible for citizenship and election, more and more families adopted the family organizational form of the archetypal citizens.

⁹⁶ For a survey of the social-history historiography on women in Renaissance Italy, see Cohn, 1996, 1-15.

⁹⁷ For complex and multi-vocal evidence on this connection, see Alberti, 1971 [~1433], and Strozzi, 1997.

⁹⁸ Kelly-Gadol, 1977. See Herlihy, 1985b, for one reply.

⁹⁹ Herlihy, 1985, 59-62.

¹⁰⁰ Molho, 2000, 244-50, makes the related point that the Florentine state had an increased interest in registering and classifying its population, for both electoral and tax reasons. While Molho emphasizes state registration, and I emphasize co-optation, the two points are not incompatible. Two sides, perhaps, of a “dialogue of power.” Cf. Najemy, 1991.

Political and social co-optation mechanisms worked hand in hand. As adaptation of Florentine lineages to republican electoral reforms proceeded, moreover, the function or “purpose” of lineage, while always mixed, appears to have shifted from predominantly military¹⁰¹ to predominantly economic to predominantly political.

Political turmoil was crucial not only for the definition of winning political faction, but also for the maintenance of low correlation among Florence’s three status dimensions. With political stability, one can expect that the dimensions of economic wealth and political power will become more aligned. In the case of republican Florence, however, periodic political crises induced sharp lurches in the composition of winning political factions, and thereby in the marriage-network core. Such crises were not entirely the exogenous shocks they appear to be, because these political crises may have been induced in part by social fluidity in the first place.¹⁰²

The lurch from the Black Guelph “oligarchy” to the anti-Ciompi “oligarchy” after the Ciompi revolt of 1378 was responsible for the greatest volume of elite fluidity observed in the two-century time period of this study.¹⁰³ The regime instituted by Cosimo

¹⁰¹ The military functioning of upper-class Florentine patrilineages or *consorterie* mostly preceded the time period examined here. See Waley, 1969, 164-82.

¹⁰² Cf. Brucker, 1962, 27-56.

¹⁰³ I leave the tracing of the complex feedbacks between the social processes analyzed here and the intellectual revolution described by Baron, 1966, to someone more qualified than I am. Hankins, 2000, 12, while severely critical of Baron, nonetheless agrees that “Civic humanism was in origin a discourse that changed the self-understanding of Florentine elites by helping them see their polity, not as a congeries of self-ruling corporations set within the larger medieval juridical order, but as a sovereign secular state led by an aristocracy of virtue.” My data cannot speak, of course, to the debate about the content and origins of civic humanist ideas. But they do speak to the character of the elites to which civic humanism appealed.

de' Medici in 1434 consolidated mimetic new men through political absorption, and it initiated the protracted process of imposing factional stability. While political turmoil continued for three decades beyond the end of my data, thus began the gradual extinction of the "Renaissance" social-mobility processes documented here.¹⁰⁴

¹⁰⁴ Note again the uptick during the fifteenth-century Medici regime in the correlations between wealth and everything else, reported in table 3. This "foreshadowing of end of family mobility" interpretation of the Medici regime is reinforced by the failure of last-name percentage to continue its Trecento and Quattrocento rise, documented in figure 1, into the 1500s and 1600s (Molho, 2000, 240). See Litchfield, 1986, 24-51, for a valuable discussion of these later developments.

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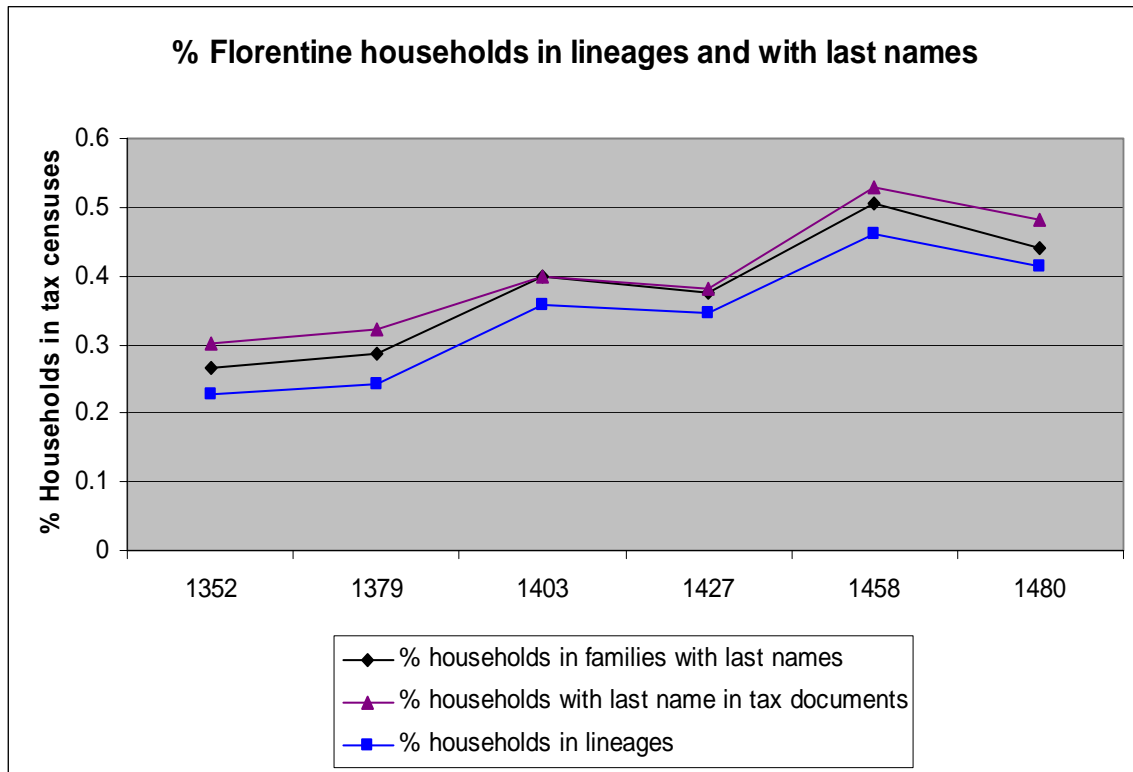
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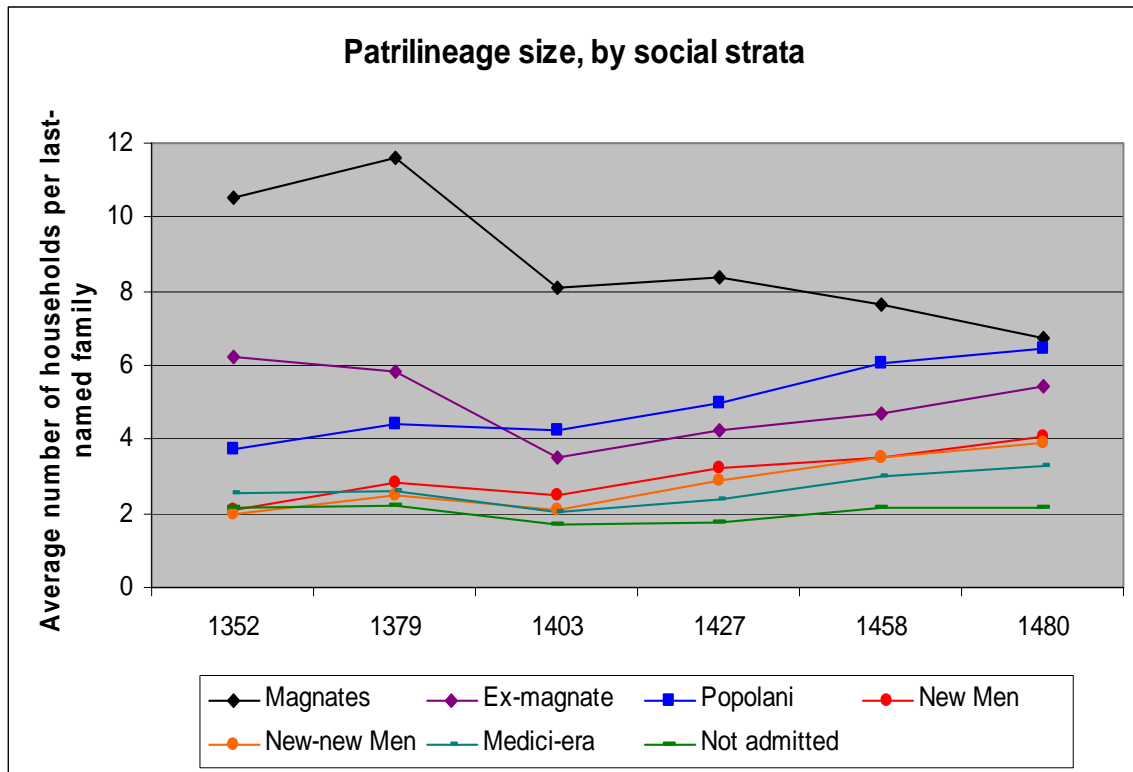
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Figure 1. Percentage of tax-census households in lineages and with last names

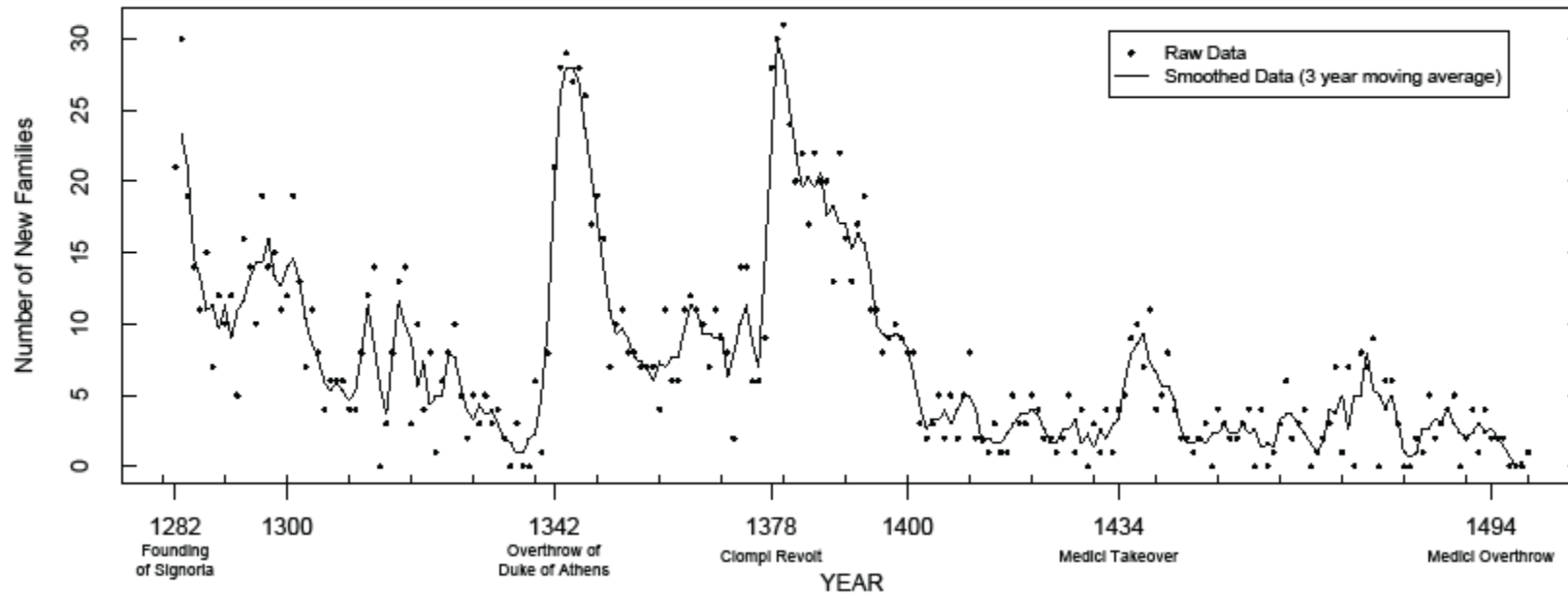
Archival sources: *Estimo* 306 (for 1352), *Prestanze* 367-69 (for 1379), *Estimo* 268 (for 1379), *Prestanze* 1989-2020 (for 1403), *Catasto* 64-85 (for 1427), *Prestanze* 834-37 (for 1458), Molho and Kirshner (for 1480).

Figure 2. Average family size (i.e., number of households in families), by social strata

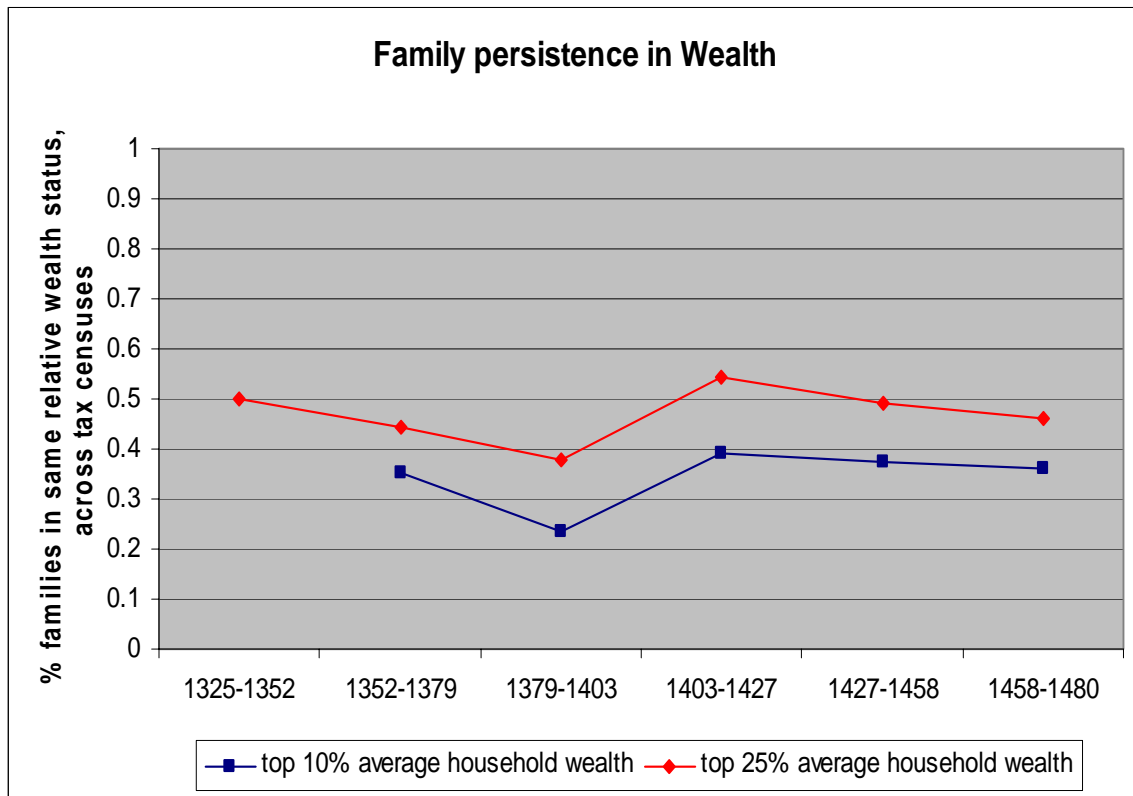


Source: Padgett relational database, using archival sources listed in note to figure 1. Social strata classifications based on date of first Prior information contained in Newberry Library, *Priorista descritto a Tratte riscontro con quello delle riformazioni e con alter scritture pubbliche*.

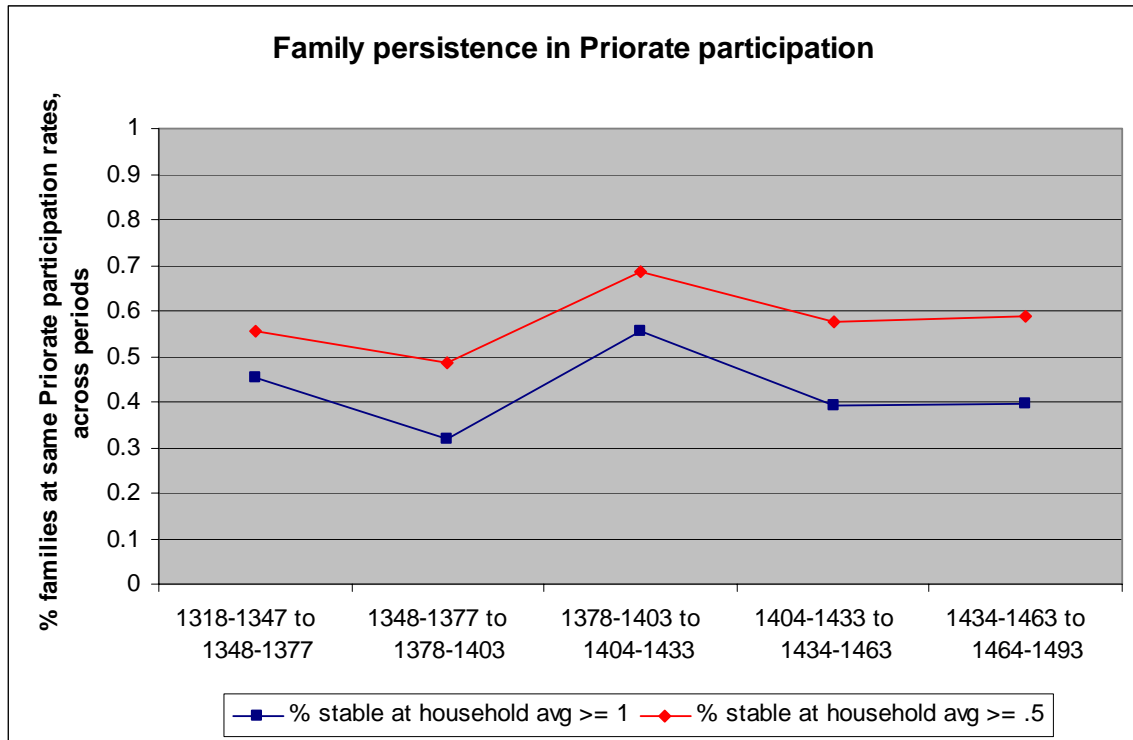
Figure 3. Total numbers of New Families Admitted to the Florentine Priorate, 1282-1532



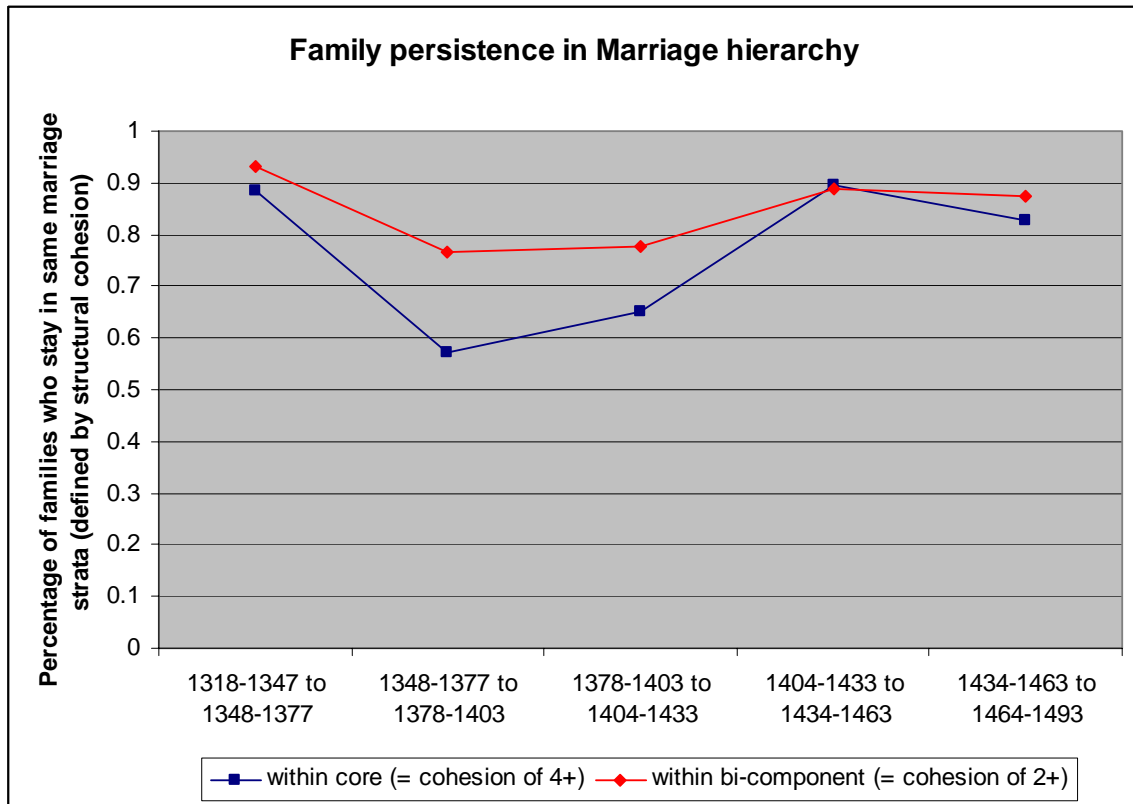
Data source: Najemy, 1982, 320-23.

Figure 4. Family stability in Wealth

Sources: *A.S.F., Manoscritto 496* (for 1325), plus archival sources listed in note to figure 1.

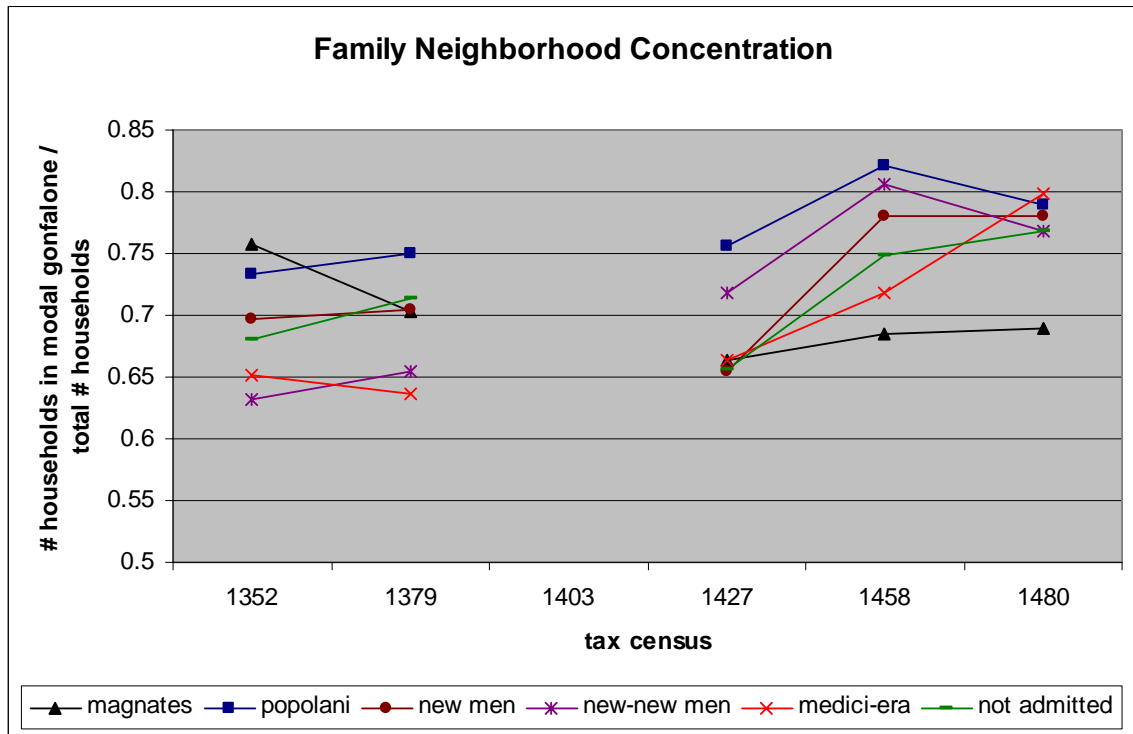
Figure 5. Family stability in Priorate participation

Sources: Newberry Library *priorista*, plus archival sources listed in note to figure 1.

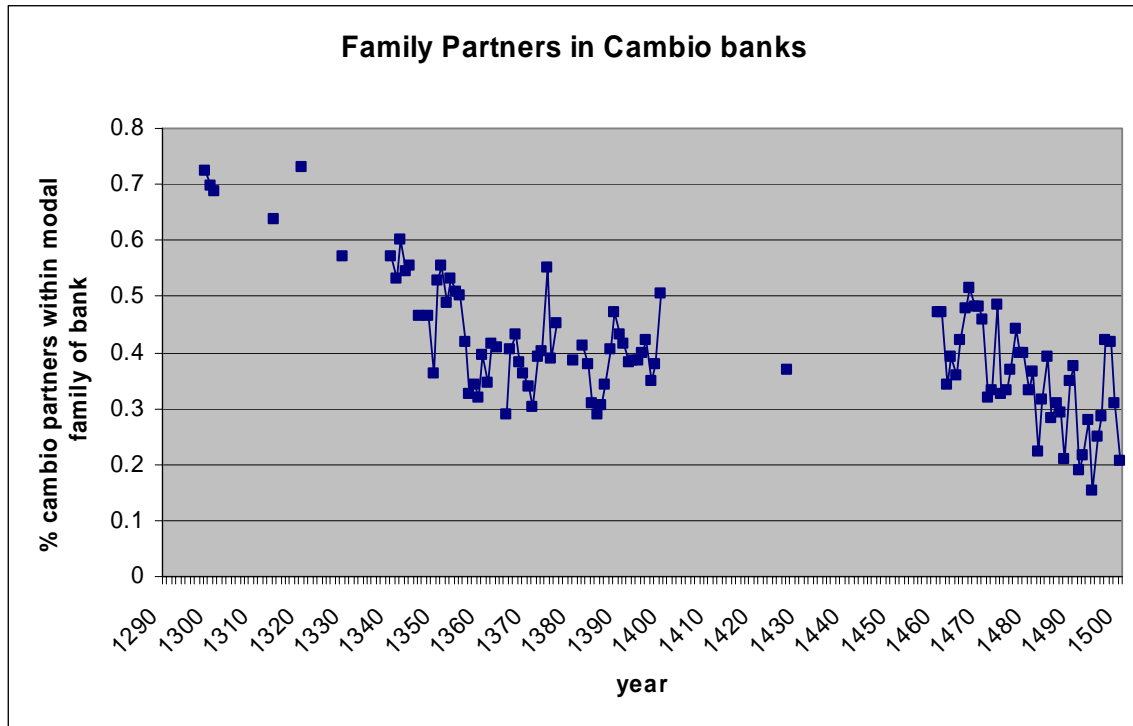
Figure 6. Family stability in Marriage hierarchy

Sources: A.S.F., *Manoscritti Carte dell'Ancisa* 348-361, plus genealogies in secondary sources listed in bibliography.

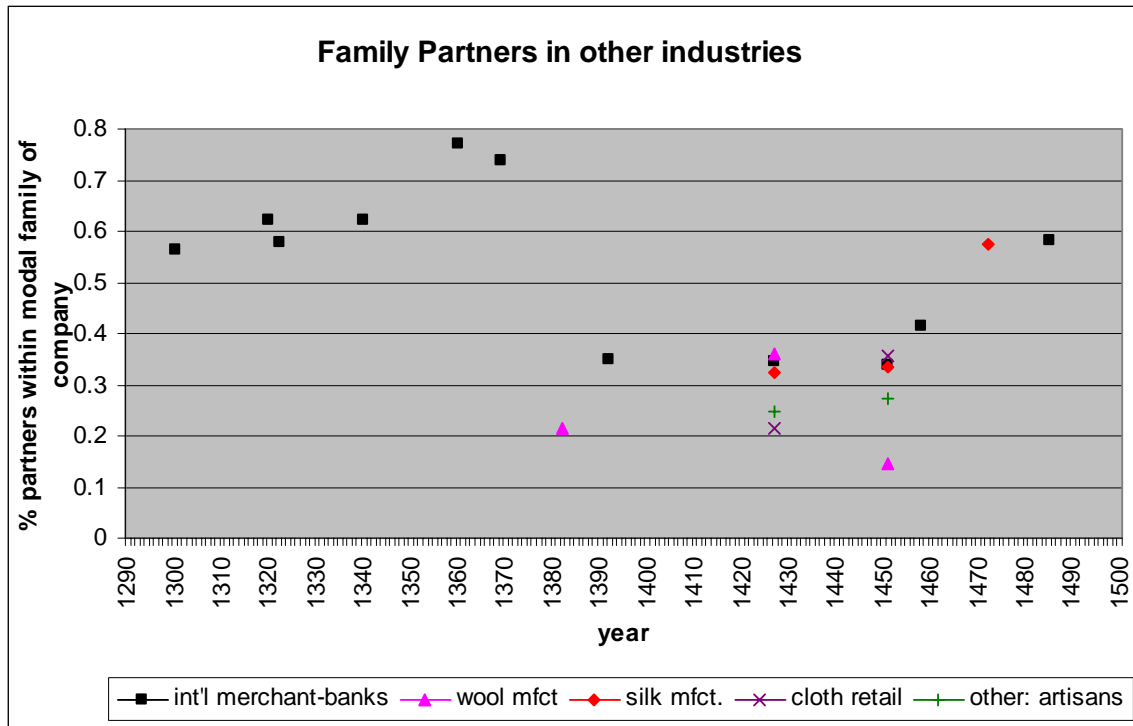
Figure 7. Residential concentration, by social strata



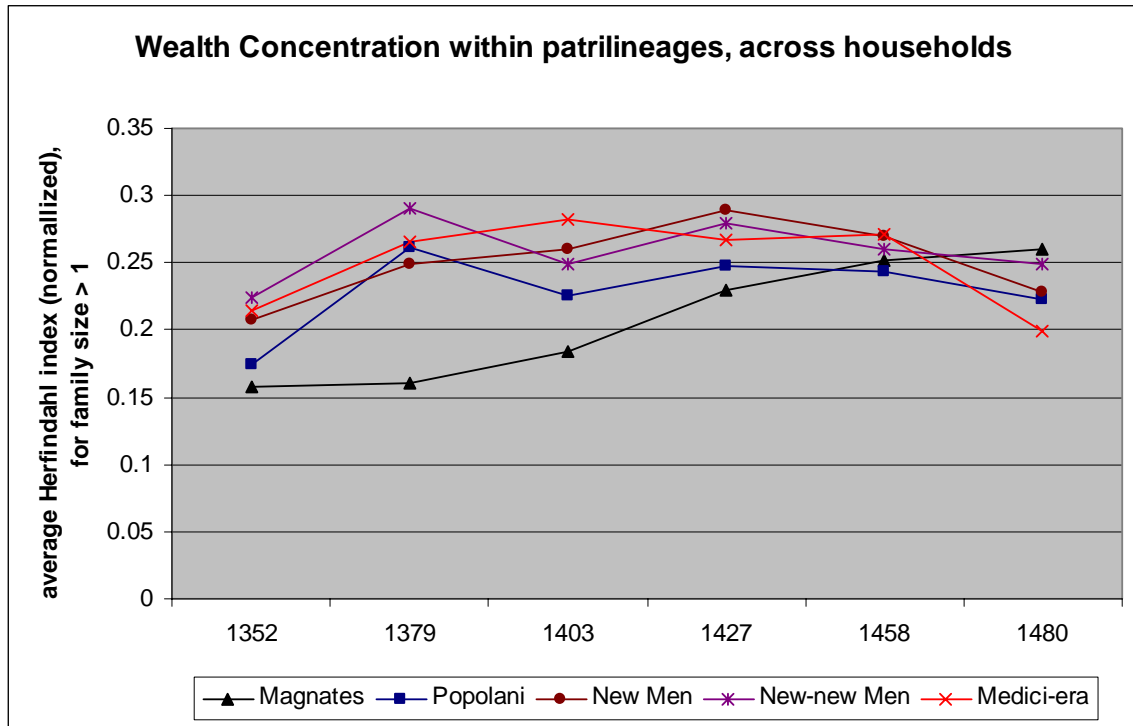
Sources: Padgett relational database, using tax censuses listed in note to figure 1.

Figure 8a. Family basis of economic partnerships

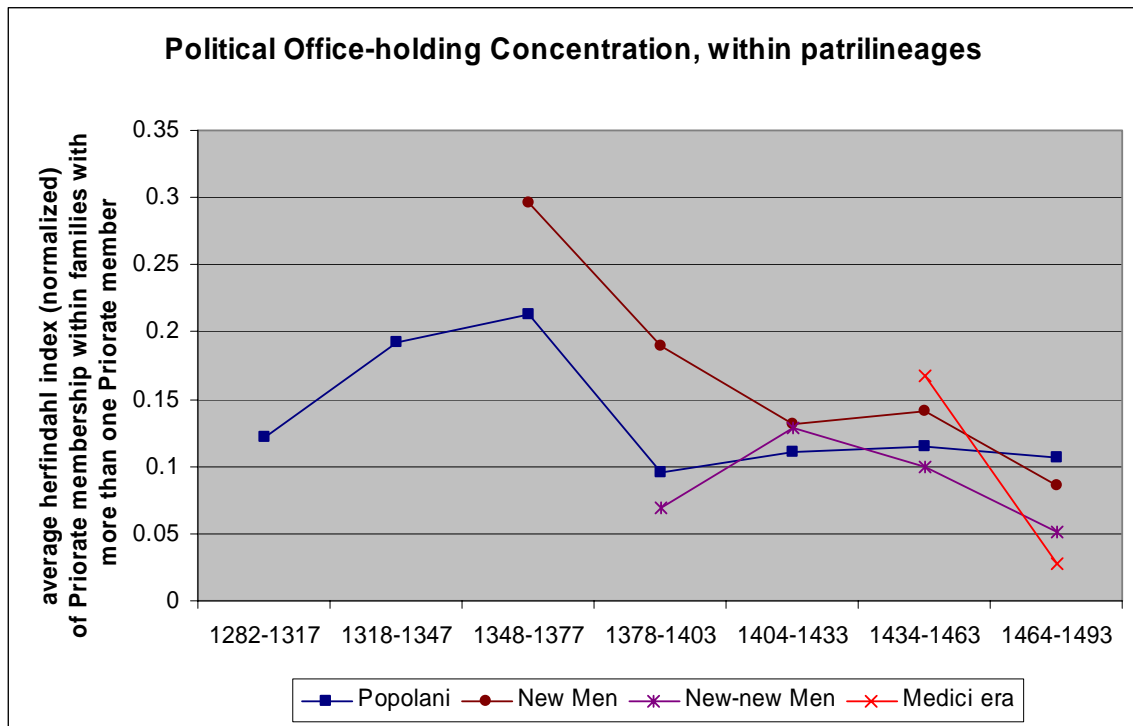
Sources: A.S.F., *Arte del Cambio* 11, 14, 15, 16.

Figure 8b. Family basis of economic partnerships

Sources: A.S.F., *Arte della Lana* 46 (for 1382), *Carte Strozzi* V 22 (for ~1485); Dei 1984 (p. 126 for 1472), Melis 1962 (tavole 27, 28, 31, 32, 35, 36, 39 and 40 for ~1395), Molho 1970 (for 1451), Padgett 2005a (for 1300-1380), 2005b (for 1427), Silva 1908 (pp. 679-83 for 1369), Strozzi account book (for ~1485).

Figure 9. Wealth inequality within Florentine families, by social strata

Sources: Padgett relational database, using tax censuses listed in note to figure 1.

Figure 10. Political-office inequality within Florentine families, by social strata

Sources: Newberry Library *priorista*, plus tax censuses itemized in note to figure 1.

Table 1. Survival rates of lineages, by social strata

Number of lineages:	1352	1379	1403	1427	1458	1480
Magnates	77	76	75	73	64	60
Popolani	249	239	220	212	182	164
New men	119	175	166	154	141	129
New-new men	94	146	206	226	199	181
Medici-era	41	67	92	112	127	127
Never admitted	93	155	188	224	211	172
Total	673	858	947	1001	924	833

100-year survival rates:

Magnates: 1352-1458 = 64 / 77 = 83.1%

Popolani: 1352-1458 = 182 / 249 = 73.1%

New men: 1379-1480 = 129 / 175 = 73.7%

Table 2. Birth of new lineages, by social strata

Number of lineages:	1352- 1379	1379- 1403	1403- 1427	1427- 1458	1458- 1480
Magnates					
Popolani					
New men	55				
New-new men	49	50	24		
Medici-era	29	23	19	15	4
Never admitted	65	45	48	16	3
Total	198	118	91	31	7

Table 3. Intercorrelations of Social class, Wealth, Political office, and Family size

Correlation between:	1348- 1377	1378- 1403	1404- 1433	1434- 1463	1464- 1493
Popolani and Family size	.1206	.1497	.2026	.2121	.2481
Popolani and Political office	.1577	.0707	.1558	.0435	-.0237
Popolani and Wealth	.0342	-.0017	.0022	.0781	.0892
Wealth and Political office	.1009	.0515	.0833	.1715	.1944
Wealth and Family size	.0333	.0091	.0238	.1498	.1733
Political office and Family size	-.0737	-.1014	-.0261	-.0305	-.0396

N.B. (a) “Popolani” is a 0/1 dummy variable, depending upon whether family’s ancestor was first admitted to Priorate during period from 1282 to 1342, and was not declared to be magnate in 1293. Popolani were the most prestigious social stratum in Florence.

(b) Per capita “wealth” is defined here as normalized average wealth (for 1427, 1480) or tax assessment (for 1352, 1378, 1403, and 1458) per household in each patrilineage. “Normalized” means that for each census each family’s average household wealth or tax assessment was divided by the mean overall wealth or tax assessment in my coded data, in order to make otherwise diverse monetary scales comparable across censuses. “Average” is defined both over all households in each last-named family and over available tax censuses [i.e., the tax censuses of 1352, 1379, 1403, 1427, 1458, and 1480] at beginning and end of period.

(c) Per capita “political office” is defined here as number of Priorate offices held per household in each last-named family, during the period listed. “Per household” means dividing total number of Priorate offices held by a family by that family’s average number of tax households.

(d) “Family size” is defined here as average number of tax households in each last-named family. “Average” here and throughout was defined over available tax censuses at beginning and end of period.

Table 5. OLS Regressions on growth or decline in Family Size:

“Family size growth/decline” = (Number of family’s tax households in later tax census) –
(Number of family’s tax households in early tax census)

	1352- 1379	1379- 1403	1403- 1427	1427- 1458	1458- 1480
constant	.5279	1.4478 ***	.3365	2.0277 ***	.4105
Family size	-.1003 ***	-.3515 ***	-.1190 ***	-.2594 ***	-.0924 ***
Magnate	.4686	-1.0371 *	-.0235	-.7143	-.6317
Ex-magnate	-.6975	-.3343	.4260	-.9027 *	.1442
Popolani	-.0385	.1969	.2027	-.2686	-.0856
New men	.7510 *	.0709	.4932 (*)	-.3171	.2259
New-new men	.6602 *	.3240	.8087 **	-.2323	-.2555
Medici-era	.5988	.1362	.2968	.3338	.1440
Avg. Hshd. Wealth	.1547 *	.2654 ***	.1583 **	.3083 ***	-.0810
Avg. Priorate partic.	-.0997	.0426	-.1194	.0154	.1381
Marriage core	.7121 *	.8160 **	1.2561 ***	.8253 ***	.5258 *
% Popolani wives	.2995	-.1134	.3328	.1593	-.1338
% Wealthy wives	-.5752	.1989	-.3310	.3701	.2246
% Priorate wives	.2960	.5232	.1346	-.4346	.7552 (*)
Black guelfs (1301)	1.3349 **	.2972			
White guelfs (1301)	.4053	.3576			
Albizzi faction	1.4738 **	1.1573 **			
Ricci faction	.4577	1.1063 **			
Anti-ciompi (1378)	.4376	-.0726	.9081 **	1.0136 **	.6385
Pro-ciompi (1378)	.8682 **	-.4731 *	.0432	-.0014	-.6454 *
Oligarchs (1434)			1.5758 ***	.0149	-.4297
Mediceans (1434)			.0969	.1987	.4641
Mediceans (1449)			1.5153 ***	1.6840 ***	1.0442 **
Anti-mediceans (1466)			.6682 *	.9036 **	-.0318
# observations	724	817	861	877	812
Prob > F	.0000	.0000	.0000	.0000	.0000
R ²	.1092	.4238	.1621	.2920	.0808

*** = (p < .001); ** = (p < .01); * = (p < .05); (*) = (p < .06)

Notes to table 5:

(1) “Family size” is each last-named family’s number of households in the tax census at beginning of period.

(2) “Average Household Wealth” is ordinal clustering of average household wealth of families into quartiles: 1 = top 10%, 2 = 10-25%, 3 = 25-50%, 4 = 50-75%, 5 = 75-100%, at beginning of period. [In table, I reverse signs from computer output to be more intuitive, because “richest” is lowest number in these ordinal codings.]

(3) “Average Priorate participation” is ordinal clustering of average household Priorate participation into 1 = ($x \geq 1$), 2 = ($1 > x \geq .5$), 3 = ($.5 > x > 0$), and 4 = ($x=0$), during the period. [In table, I reverse signs from computer output to be more intuitive, because “most powerful” is lowest number in these ordinal codings.]

(4) “Marriage core” is the set of families in the inner core of the marriage network of that period. “Core” is defined as those families with structural cohesion of 4 or more.

(5) “% Popolani wives” is the percentage of male marriages into female families who were popolani in social class, during the time period in question.

(6) “% Wealthy wives” is the percentage of male marriages into female families in the top 25% of average per-household wealth, during the time period in question.

(7) “% Priorate wives” is the percentage of the male family’s wives whose families were in top ordinal class of Priorate participation that period.

(8) All political faction variables are simple binary (0/1) indicator variables, identifying whether one or more member of the family was an active member of the faction in question.

Table 4. **Zero-inflated Poisson regressions on Inter-family Marriagesⁱ**

	1282- 1317	1318- 1347	1348- 1377	1378- 1403	1404- 1433	1434- 1463	1464- 1493
<u>Controls:</u>							
Expected baseline ⁱⁱ	6.9468***	3.9616***	1.2964***	3.1385***	2.9784***	5.5228***	4.6914***
male family seen	.0140	.0923	.3645***	.1131	.1480	.1773*	.1703**
female family seen	-.0258	.1117	.1688*	.0184	.0671	.0969	.1200(*)
<u>Large Lineages:</u> ⁱⁱⁱ							
households ≥ 5			.1205	.2166**	.2318**	.0885	.1493**
<u>Social strata:</u>							
magnate-magnate	-.0010	.2348	.5880***	.6974***	.5978**	.4390*	.4483*
magnate-exmagnate ^{iv}			.1222	-.1804	-.3143	.0489	.1730
exmagnate-exmagnate			-11.080	.1047	.3194	.6601	.5342
magnate-popolani	-.0455	-.1211	-.0258	.0537	.0534	.0868	.1277
exmagnate-popolani			-.1352	.1159	-.1167	-.1119	.0193
popolani-popolani	.0027	.1885	-.0235	-.0130	-.09049	-.0245	.0568
popolani-new men ^v	-.3662	-.0819	.0456	-.1459	-.0492	-.0028	.0400
new men-new men	1.1615	.8756*	.0209	.3322*	.0102	-.0494	-.0465
exmagnate-new men			-.2031	-.7210*	-.1229	-.2945	-.1883
magnate-new men	-.3420	-.3337	-.4190**	-.3272*	-.2457	-.1114	-.0550
<u>Neighborhood:</u>							
same quarter (ngonf)	.4176**	.3716***	.3556***	.1470*	.1422*	.1563**	.0281
same gonfaloni ^{vi}	.8896***	.6324***	.5614***	.5580***	.4988***	.5362***	.2046*

Table 4 (cont.) **Zero-inflated Poisson regressions on Inter-family Marriages**

	1282- 1317	1318- 1347	1348- 1377	1378- 1403	1404- 1433	1434- 1463	1464- 1493
<u>Wealth</u> : tax assessment averages ^{vii}							
male & female: top 10% of wealth			.4062**	.3625**	.4707***	.2654*	.3995***
male & female: top 10-25% of wealth			.2256**	.2099*	.1622(*)	.1570*	.0941
male top 25% – female bottom 50%			-.1292	-.2597**	-.3224**	-.3330***	-.1680*
male bottom 50% – female top 25%			-.2079*	-.2128*	-.2602**	-.2593**	-.1645*
male & female: bottom 50%			.1102	-.0202	.1919	.1341	.0378
<u>Guild</u> : matriculation ^{viii}							
Calimala (trading)		.2151	.2851	.0746	.2014*	.1759(*)	.1874*
Cambio (banking)		-.1394	.1360	.0318	.1712*	.0315	-.0118
Lana (wool) ^{ix}		-.3674	.1179	.1254	.16647*		
Por S. Maria (silk)				-3.358	-.1410	.1101	-.2778
<u>Company partnerships</u> : ^x							
Int'l merchant-bank				1.0382	-.0787	-.1053	
Domestic banking	-2.5547	-.1714	.0257	.0169	.5469*	.0881	.0711**
Wool manufacturing					.3880	.1819	
Silk manufacturing					1.1257**	.45349	

Table 4 (cont.) **Zero-inflated Poisson regressions on Inter-family Marriages**

	1282- 1317	1318- 1347	1348- 1377	1378- 1403	1404- 1433	1434- 1463	1464- 1493
<u>Political office</u> : Cumulative Priorate ^{xi} male & fem. top 25%	-.2517	-.3482	.2525	.1013	.2650*	-.2101	.0059
<u>Political office</u> : Priorate ^{xii} male & female ≥ 3	-.0576	-.1536	-.1134	.0561	-.1653	.0676	.0977
male & female 1-2	.0444	-.0437	.1792	-.0676	-.1058	-.1147	-.1859
<u>Political office</u> : Mercanzia male & female ≥ 1	.1425	.0489	.1222	.1535	.0953	.0987	.1141 ^(*)
<u>Political factions</u> :							
Black guelfs (1301)	.3995*	.4802***	.4577***	.2480*			
White guelfs (1301)	-.4561	.3194	.1824	.2181			
Albizzi partisans	.0950	.1843	.0963	.0900			
Ricci partisans	.5190	-.1990	.2688	.2957			
anti-ciompi (1378)	-.0454	.0258	.3418***	.5562***	.2418*	.1780 ^(*)	.0483
pro-ciompi (1378)	.3288	.48947***	.0739	.2534*	.2283	.1493	.0656
Oligarchs ^{xiii} (1433)					.2354 ^(*)	.0468	.0604
Mediceans (1433)					.1544	.0942	.2134**
Mediceans (1449)					.0883	.1303	.2278*
anti-Mediceans ^{xiv} (1466)					.1603	.2792**	-.0650

Table 4 (cont.) **Zero-inflated Poisson regressions on Inter-family Marriages**

	1282- 1317	1318- 1347	1348- 1377	1378- 1403	1404- 1433	1434- 1463	1464- 1493
Poisson constant	-3.798 ^{***}	-3.837 ^{***}	-3.742 ^{***}	-4.198 ^{***}	-4.078 ^{***}	-3.989 ^{***}	-3.987 ^{***}
<u>Inflated zeros:</u>							
Expected baseline	-393.52 ^{***}	-377.84 ^{***}	-218.41 ^{***}	-602.34 ^{***}	-443.49 ^{***}	-344.13 ^{***}	-362.62 ^{***}
zeros constant	4.178 ^{***}	4.157 ^{***}	3.830 ^{***}	3.959 ^{***}	3.827 ^{***}	3.679 ^{***}	3.698 ^{***}
# dyads	40,000	116,964	425,104	416,025	372,100	501,264	497,025
# non-zero dyads	244	589	1,561	1,262	1,258	1,888	2,183
Log likelihood	-1136.79	-2836.28	-8091.84	-6787.32	-6622.74	-9884.76	-11041.36
LR chi ²	101.25	279.53	629.65	543.49	466.47	552.82	675.28

*** = (p < .001); ** = (p < .01); * = (p < .05); (*) = (p < .06)

ⁱ Families were included in these dyad-based Poisson regressions only if at least one marriage (son or daughter) by them was observed in the period in question.

ⁱⁱ “Expected baseline” was calculated from marriage marginals (i.e., total numbers of brides and grooms) in chi-square manner. This calculation controls for the tautological aspect of family size – namely, the fact that size is statistically important simply because large families produce more sons and daughters to marry.

ⁱⁱⁱ “Family size” was calculated as the lineage’s average number of households, as measured by tax censuses at beginning and end of reported periods [i.e., the 1352, 1379, 1403, 1427, 1458, and 1480 tax censuses]. “Large lineages” is a binary variable defined as 1 if both lineages had greater than or equal to five households in average family size, and zero otherwise. Because of the inclusion of “expected baseline” as control, the statistical effect of this variable is above and beyond the tautological aspect of family size.

^{iv} Klapisch-Zuber (2006) provides valuable information on when some magnate families’ legal status was repealed. All magnates’ legal status was repealed in 1434, but in the last two regressions I maintain the 1433 status of magnate families, to see if there was a residual effect on marriage even after legal repeal.

^v Because of similar coefficients between new men and new-new men, in this table I aggregated new men and new-new men into the combined stratum of “new men” – namely, “ancestor admitted to priorate 1343-1433.”

^{vi} For this purpose, “modal gonfalon” was measured in tax census at end of respective period. For the first 1282-1317 period, gonfalon data from the first available 1352 tax census was projected backward.

^{vii} Tax assessment “averages” in two senses: (a) tax census at beginning and at end of period, and (b) household average within each patrilineage. In order to average them, tax censuses first were made comparable through normalization at mean of respective tax assessments of households in my dataset.

^{viii} “Families in same guild” defined as both lineages having had at least two members matriculate in the guild during the period in question.

^{ix} I have not yet finished coding the matriculation records of *Arte della Lana* for 1441-1500.

^x “Company partnerships” defined in units of partner-years. That is, the independent variable here is the total number of times a company partnership is observed between the two patrilineages’ members, over the years of observation of companies available to me. Because the varying numbers of years available to my

observation, company-partnership coefficients are not comparable in magnitude across periods, as they are for all other variables.

^{xi} “Cumulative Priorate” was measured by total number of priorate offices held by families since 1282.

Dummy-variable measure equaled 1 when both male and female families were in set of top families collectively having held 25% of seats, and it equaled 0 otherwise.

^{xii} “Priorate” was measured by number of priorate offices held by families during period in question.

Dummy-variable measure equaled 1 when both male and female families were in set of families with ≥ 3 offices (or as indicated), and it equaled 0 otherwise.

^{xiii} The coefficient for “oligarchs” was significant for 1404-1433 until the anti-ciompi variable was included. This indicates that marriage was an important organizational component of that faction, but that this inherited component was a residue of the Ciompi revolt, as discussed in Padgett and Ansell (1993).

^{xiv} Families of the top 125 signatories of the anti-Medician petition reported and discussed in Pampaloni (1964). “Top 125” chosen as cutoff to make comparable with sizes of Kent’s 1433 lists.